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Georgia Meeting Discusses Warp Preparation, Slashing & Weaving

THE fall meeting of the Textile Operating Executives of Georgia, held Tuesday, September 13th at the Henry Grady Hotel, Atlanta, was devoted to a discussion of spooling and warping and slashing and weaving.

The meeting was conducted by Frank S. Dennis, vice-general chairman, who presided in the absence of J. S. Bachman, general chairman.

At the business session, Frank S. Dennis, manager and superintendent of the Consolidated Textile Corp., LaFayette, Ga., was elected general chairman of the organization. He succeeds John S. Bachman, of Rome. J. W. Hames, superintendent of the Exposition Mills, Atlanta, Frank E. Heymer and E. F. Rogers, superintendent of the Fulton Bag and Cotton Mills were elected to the executive committee and R. W. Philip was re-elected secretary.

In opening the meeting, Mr. Dennis said:

In planning this meeting it was decided by the members of the Executive Committee that, inasmuch as recent years have seen the development of improved methods of spooling and warping, and inasmuch as at the September meeting it has been given over almost invariably to slashing and weaving, and the March meeting given over to carding and spinning, we were failing absolutely to cover these intermediate processes. For that reason we decided that it would be entirely in order to consider the new systems of spooling and warping, that have been brought out, and Mr. Philip has been able to get some of the men, who have these installations at their mills, to agree to explain the systems to this meeting. After they have gone through them, we will discuss them in a general way, or, if there are any points that are not exactly plain to us, we will clear those points in our minds by asking questions covering these systems.

In this connection it is of course a rule of this organization not to discuss the comparative merits or demerits of any individual make of machinery. While we are naturally dealing with different systems, and naturally to some extent we all know who is the manufacturer of the one system as against who is the manufacturer of another, it will of course be necessary for us to refrain from any comparison as to the special

merits or demerits of any system over another.

Before it was learned that Mr. Bachman would be unable to preside the Committee had wished off on me the job of handling the slashing and weaving discussion, which will come after this first part of the program. I have asked Mr. Philip to take charge of the meeting during the first part, in which we discuss the spooling and warping, and I will therefore turn the meeting back over to him at this time.

Remarks by Secretary Robert W. Philip.

(Introducing R. J. Jennings.)

GENTLEMEN: From what Mr. Dennis has indicated it might seem to be a little bit of a delicate situation in accordance with our rules with reference to discussing particular manufactured products, but I am sure you will understand that since it happened in the case of warp preparation there were two major processes developed by different companies, that a slight departure was made from our rules, which I am sure you will appreciate.

As he said, in discussing these different systems, we will consider each one on its own basis, and, when we have finished the discussion of one, we will discuss it and take up the next.

As he said, after this discussion we will revert back to our customary practice of discussing the technical phases of slashing and weaving, and I have the copies of the questionnaire, which I sent out, and Mr. Dennis will conduct the discussion of that.

In that connection, heretofore for the last two or three meetings we have eliminated afternoon sessions, feeling that we might compress the whole discussion into one morning meeting. We decided for this time, after talking it over with a number of the gentlemen, to continue the discussion, which it not completed this morning, into an afternoon session, and we urge all of you after luncheon to remain for that session.

In connection with the warp preparation discussion, which we will have now, the two major systems developed consist of a method of winding at a high speed onto a cone, those cones being transferred onto a high-speed warper; and then the Barber-Colman system of high speed spooling and warping; and

then the introduction of a vulcanized fiber-head spool onto the regular process. We want you to feel free, as these men have finished with the descriptions of their own installations; to ask about any point about the processes, that are being described, that is not perfectly clear to you. In connection with either one of them, if a man fails to bring out some point you would like to know about the description of the manner, in which the method operates, or as illustrative of some of the points he has outlined in the operation, we want you to feel entirely free to ask him any question, on any point you would like to bring out.

The first system, that will be discussed, is based on an installation at Lanett Mill at West Point, and R. J. Jennings is going to describe his installation to us at this time. (Applause).

REMARKS BY R. J. JENNINGS

(Lanett Mill, West Point, Ga.)

GENTLEMEN: This description I have got here is not as long as it looks to be. We have tried to get up in a general sort of way an outline of the installation at the mill without discussing, as Mr. Dennis states, the various merits and demerits of one system or the other. We are about half way through with the installation at the mill. We are installing the Universal system of high speed warping. We have not the entire mill changed over but from the experience we have had so far we have got a pretty good idea as to the effect the system will have in the mill both in the warping and slashing and weaving departments.

The yarn is delivered to the winder on filling wind bobbins, and you can understand that you can use either filling wind or warp wind or combination wind or anything else. The winder is operated at a constant speed of about 500 yards to the minute. We wind the yarn on a wooden cone something like this cone here. The cone, when full, contains about four pounds of yarn.

The yarn is transferred from one cone to another in this way. If you have got two cones on your reel, we take this here, and tie it onto the front end of this cone here, and, as this cone runs out, the yarn takes it up from this cone to the other without the warper ever stopping. So you creel continuously all the

time, and don't have to stop the warper for creeling.

When the mill is completely changed over, we figure we will need 19 winders to give the production produced by about 40 old type spoolers. These 19 winders will require about 70 winder ends. Of course a thing like this is governed by the number of your yarn. The finer your yarn, the more spindles the winder ends can reach. Under the old system we had around 85 spooler ends.

We have a rack built to hold 100 cones, and as they come off the winder, they are set in these racks, and they go to the warper without having to be piled into boxes or things like that.

In creeling two cones, when both of these cones are in line, one of the cones is constantly being emptied by the drawing of the yarn. It comes off of this cone right over here in this way. The cone is stationary all the time, and the bottom end of the cone, which is delivered to the warper, is tied across the outside end of the other cone with yarn, which is lined with the same tension. When this operating cone becomes empty, it automatically transfers, and in this way the creeling operation is entirely separate from the warping, and the warping never stops to creel. This gives a continuous operation of the warper except for the cutting off of broken ends. As long as there is no stopping of the warper to creel there are no knots to be pulled through and cut off, which saves a certain amount of waste formerly made.

Another advantage of this type of warper is that there is no limit from a creeling standpoint as to the length of warper of ends. We are using wooden-head section beams 28-inch head, which happens to be a larger head and larger beam than we formerly used. With these longer sets there is a consequent saving of waste behind the slashers.

We run our high-speed warpers about 300 yards per minute, and, when completely changed over, we will require about ten warpers. We have estimated that eight warpers will turn off the production required, but we are installing a few extra warpers in place of having night work. We run around 25,000 spindles at night, but do all the warping in the day time. Four warper tenders will be required

against seven used when we were using the old-style winders, and eight creeler hands required against twenty-one under the old system.

In our new system, when installed, we will put the whole thing down in one spool room and save one second hand and one section hand, and that is an advantage. The wooden cone used on our winders is about one-third of the cost of spoolers. They hold about three times the amount of yarn contained on the spoolers, and about 13,000 wooden cones are required for our mill, whereas before we had to keep on hand around 50,000 spools, besides having a certain amount of dead yarn on your spools all the time. That cone runs completely out under the new system. These wooden cones are returned to the winders entirely free of yarn. We estimate that our saving of yarn in the process will be about 50 per cent. Of course we will have a certain amount of yarn between the winder between the winder and warps all the time.

We have found that the beam of our high-speed warpers shows the same improvement over the old warpers, and fewer number of loose ends. We have made tests in the weave room, comparing the warp under the high speed system and the warp under the old system, and find a noticeable improvement in the running part of the warp.

A lot of fellows might want to ask a lot of questions on that line, but one reason for that is that in this Universal system you have got the same tension on every end. Consequently your yarn has got to be wound on your beam at a more even tension than on the old style warper.

I have just got a few notes here, and in conclusion will say that the principal features of the system, that we have installed at the mill, are as follows: Improved warp due to even tension, maintaining elasticity in the yarn. Elimination of all dead yarn at the bottom of the spool. Saving of labor cost; and elimination of having to carry such a big amount of spools in stock all the time. (Applause).

F. E. HEYMER (Columbus): How many spindles does the winder run, and what number of yarn are you on?

ANSWER: Right at present we have got it on 14s yarn. We have got 32.

F. E. HEYMER (Columbus): Do you find on the high-speed warper of 300 to 500 yards that you still retain elasticity in the yarn?

ANSWER: Yes. We find the yarn better on the high-speed warper than it is on the other.

F. E. HEYMER (Columbus): Would you get as much yarn as under the old beam heads? In the case of a 24-inch beam head you get about 15,000 yards; would you get the same amount on the warper beam?

ANSWER: Yes; get more.

J. W. HAMES (Atlanta): How does the waste behind the slasher compare with the waste under the old system?

ANSWER: Beam for beam, about the same, but by getting more yarn on the beam than we formerly put

on, and cutting down on the number of sets to the slasher a week, we get a big saving there, and also on these warpers I think on an average we have been getting a better run-out than on the old style warpers. I know we do, but we had pretty old warpers to start with.

MR. WILLIAMS: In transferring one from the other is there any chance of losing twist there on this tail end?

ANSWER: No. You cannot lose any twist because the yarn before it is transferred is wrapped around this little groove in the end of the cone, and run into the slot here, and it pulls it off and ties it onto the other cone.

F. E. HEYMER (Columbus): Do you use a knitter there or tie by hand?

ANSWER: We started last week to use a knitter in the creel.

QUESTION: The knitter does not get in the way?

ANSWER: No. If you have got a long enough tail end, it is not in the way.

F. E. HEYMER (Columbus): You were speaking about using wooden-head beams. What has been your experience with them?

ANSWER: So far they are all right.

QUESTION: You don't find any warping in there?

ANSWER: No sir.

QUESTION: Have you had any break yet?

ANSWER: We have not had a one to break.

QUESTION: Do you know what kind of wood they are made of?

ANSWER: No; I don't.

QUESTION: Why do you use wooden-head beams in preference to iron heads?

ANSWER: You cannot exactly use an iron-head beam for the warper. It's a question of the momentum at high speed. If anything happens to them, they would run all over the mill before you could stop it.

SECRETARY PHILIP: We will next consider the Barber-Colman system of high-speed spooling and warping as installed at the Manchester Cotton Mill. We appreciate the fact, due to having been in operation a longer time, some of you would be familiar with the Barber-Colman system, and understand the principle fundamentally of the Universal system, but in rounding out the meeting we wanted to include all the developments, that had taken place in this department.

Mr. Trotter, manager of the Manchester Mill, where they have had this system in for quite a while, prepared a description of their installation, but found yesterday, due to illness in his family, he could not come, and asked V. J. Thompson, superintendent of the mill, to present it to you. If there are any questions you want to ask on this system, when he has finished as to its operation, Mr. Thompson will be glad to answer them for you.

REMARKS BY V. J. THOMPSON

(Supt. Manchester Mills, Manchester, Ga.)

We have the high-speed spoolers and warpers. We have four spoolers and two warpers. Our spoolers

wind about 1100 yards a minute, and the warpers run about 560 yards a minute. We have four spoolers, that take care of what nine spoolers of the old type did. We find that we don't have to have as much yarn process between spinning and slashing. We make one match beam for a set, and we run spool ends to the beam, and we take the match beam to take care of that set.

We run 17,000 yards, and on the old warpers we only ran 14,000 yards. We had 28-inch beams, and now we have them 26-inch. We have 8 spooler hands taking the place of 27 before. We had 27 spooler hands for our 9 spoolers. We have 8 at present and 100 spindles to the spooler. We run about 20,000 yards to the cheese, but we leave about 3,000 yards of that to take back to the spooler.

We make a chart every day of how many stops on each warper. On 17,000 yards of 14s yarn on one beam we had one stop; on another one we had eight; on another one we had five; on another one we had eight; on another one eleven; and is just depends on conditions as to how many stops you will have.

We have no tension at all on the keys. The keys are ball-bearing, and no tension on them whatever.

Most of you no doubt are familiar with the operation of the Barber-Colman centrifugal spooler. We run a combination wind instead of a warp wind or filling wind. We tried the filling wind, and it would not work. We run the heavy yarns, 13s, and the old system we had 13,000 to the spooler, and we put 17,000 to it now. As stated four spoolers take care of the same production as was formerly had from nine old type spoolers. We have nine hands on the new type to twenty-seven on the old. We run all the time. We take and paint the cheese different color you know, so that we can keep the yarn numbers separate. We have some tests made in the weave room, and we ran tests on 10 looms for 20 hours. We had 110 stops on the old style and 89 on the new style in the same amount of time.

I believe that is about all I have got to say on it. If anybody has got any questions he would like to ask, I will do the best I can to answer them.

FRANK S. DENNIS (Lafayette): What does the spooler tender have to do?

ANSWER: All he has to do is to take the bobbin and stick it on the spindle, place it in the box, and put the end up. The knitter head picks up the end and ties it and lays it back on the drum. Figure 6 in this pamphlet (an advertising folder) shows the spooler putting up the ends. Figure 5 shows the winding units and drum. You drop it in the place, and hook the end up, and the knitter picks it up, ties the end, and lays it back over the drum, and, whenever your cheese is full, the machine will not tie a knot. It will throw it back. It won't tie a knot at all. Figure 12 shows a man creeling the warp. We have a brake on that machine, that works with a brake on the drum, and whenever the end breaks all the brakes go on at the same time, and it all stops at the same time. We have no tension on

that cheese at all only when the brakes are put on.

FRANK K. PETREA (Columbus): He has stated that he was running 14,000 yards on the old system, and he is running 17,000 on the new. I would like to know what changes have happened in order to get that increase.

ANSWER: We cut down a few ends on it, and it is wound a little bit tighter on the drum of the new style than it is on the old style.

J. W. HAMES (Atlanta): Does it take any more skill to operate that spooler than the old type?

ANSWER: We taken the same spooler hands, and put them right on the new spoolers.

QUESTION: Does it take any additional skill for the warpers?

ANSWER: No; we have got the same warpers. We have got the same section hand too. We have not had to change any of them at all. Of course it takes them some time to get onto it, like everything else.

FRANK S. DENNIS (Lafayette): Is the comb on that warper the same as the ordinary warper comb?

ANSWER: No. The comb on the front of the warper is a little different. It is arranged like the old comb. In creeling your warper you start from the bottom and go all the way to the top. You start the creeler, and you can start it up in a few minutes, maybe 15 to 20; it all depends. Probably you can start it up in 10 to 15 minutes.

QUESTION: I would like to ask about the upkeep?

ANSWER: I imagine the upkeep is a little bit higher. I have not any figures on that. I cannot say, but it would not be much because you have got a good deal less machinery than you had with the old type. It would not be much more, very little difference, if any.

MR. THOMPSON: If any of the gentlemen come down around Manchester, I would be glad to take them in and show them the machine in operation.

SECRETARY PHILIP: There is one other development in the department of warp preparation, that will be possibly of a little bit more direct interest to you in connection with the usual method of spooling and warping for the reason that it is applicable to that process directly, and that is the introduction of a vulcanized fiber head spool in substitution for the regular wooden spool, that has been the usual method heretofore. We had a man, who has his mill completely equipped with that system. He is a little bit timid; I don't know whether he is in the room or not. If we can get him to give us the benefit of his experience with those, I should think it would be interesting. The average mill man is a shrinking violet. I don't want to call on him unless he is willing to give us his experience. If he is, we will be glad to have him do so. It seems he is not. Does anyone in the room have a sufficient number of vulcanized fiber head spools running in their mill that they would like to tell us their experience with them? We will open the meeting for anyone, who would like to tell us what they have found about that type of spool, and what it does as compared with the old wooden

spool. (No response). We are very sorry because we had hoped to run out all of the major developments, that have taken place in this department, and we feel that these three items would cover it pretty well. However, we will apparently have to pass that up for some other time.

That concludes this feature of the meeting, and we are going to enter now into the technical discussion under the direction of Mr. Dennis, and we hope that you won't be as reticent as you have been about this point, and will enter into this discussion in a very open way, and take part in the talk on the various questions, that we have on the questionnaire. I am going to ask you to let me pass the questionnaires around to you, so you can follow the trend of the thought, as Mr. Dennis takes up the questions.

F. E. HEYMER (Columbus): I will state that I have just placed 15,000 of the latest type fiber head spools, and judging from the expressions from our warper hands (who certainly know whether the work is running better or whether it is running worse) I judge that it is one of the biggest improvements that we have ever put in our mill. Heretofore two warpers was about all they could do. Now they are running three. We have decreased at least 50 per cent the yarn breakage on those warpers, and we are getting a much more uniform beam. We had heretofore beams with hard places and soft places, and you can imagine what that means in a colored mill in that case. Since we have placed those on all those beam warpers we have found we got a more uniform beam, an evenier tying, a better run of work, and our warper hands are much more satisfied, and are running three warpers without any trouble at all. Of course you have to make good yarn to go with that, but we have not made any changes in our spinning or carding. We have found that our warper work is running considerably better, and end breakage has decreased at least 50 per cent on those new fiber head spools.

W. H. EPPS (Jefferson): I was wondering if we could have a few humidifiers over in this corner of the room. (Laughter).

SECRETARY PHILIP: We will pass these questionnaires around, and then start the practical discussion on the questions on them.

J. W. HAMES (Atlanta): Before you pass from this question I would like to ask Mr. Heymer if he gets any more yarn on the fiber spool than he did on the old?

F. E. HEYMER (Columbus): I make now two warps whereas heretofore I made only one warp.

QUESTION: Do you get the same amount of yarn?

F. E. HEYMER (Columbus): I get more yarn on there. I get quite considerably more yarn, and it enables me to make two beams instead of heretofore one.

SECRETARY PHILIP: I will now turn the meeting over to Mr. Dennis.

Slashing.

(Discussion led by Vice General Chairman Frank S. Dennis, Lafayette, Ga.)

We will all turn to the question-

naire now, and take up the first question on slashing. In this connection I might say that most of us have come down here with the idea of getting something out of this meeting. I think we generally find that we get out of a proposition in direct proportion to what we put into it. I expect that some of us, it were not for that, would not be willing to take as prominent a part in the meetings as we do, but I found myself that the more I put into it the more I get out of it. I want to recommend that to each one of you, and ask you to take part in this discussion freely. I think I can safely assure you that you will get out of it in direct proportion to what you put into it. The first question on slashing is:

What weight squeeze roll do you use on slashers for various numbers of yarn, with varying number of ends to a set? We suggest that you weigh your squeeze rolls and give the weights, specifying the numbers of yarn and number of ends in the warps in each case.

This question was so worded in order that you might distinguish between the mills running a light sheet of yarn and those, that are running a heavy sheet of yarn, which of course is more difficult to penetrate with the size, and therefore might require a different weight of squeeze roller from that, which could be used on a light sheet of yarn.

We have several answers to the questionnaire, and I am going to ask that as we get these weights they be tabulated, in order that it might go into the record, and after we get home, if we want to compare the weights, that are used at the different mills, we can do that. Of course the mill's name will not be used in this tabulation, but there will be a reference letter, that will be substituted for the name of the mill.

One of the answers we have here is on all numbers of yarn and varying number of ends they use 480-pound squeeze roll on the front and 350-pound on the back.

The next is 300 pounds on the back and 450 pounds on the front.

The next is 450 pounds on the back, 500 pounds on the front.

The next is 325 pounds on the back, 450 pounds on the front.

The next answer we have is "500 pound roll." I presume they have the same weight back and front.

The next is 250 on the back, 410 on the front, all numbers of yarn.

The next is 360 pounds—I presume back and front the same.

The next is 400 pounds—I presume the back and front are the same in that case.

The next is 350 pounds—back and front.

The next is 450 pounds. I presume that is back and front.

In connection with one answer here a mill using 360-pound squeeze rollers back and front says that they have order 500-pound squeeze rollers, and "we find we get better results with the heavier rolls."

If different ones of you will give the weight of your squeeze rolls, I think we can get up a table, that will be very interesting. Those who

did not answer the questionnaire, please give us the weight of your squeeze rolls. (No response). Let me ask this question—how many do not know the weight of their squeeze rolls. (No response). Let hand). Those, that do know, please let us have those weights because it is going to be very helpful to get up this table, showing the weights that you use.

ONE ANSWER: 350 pounds back and front, running 15s and 24s.

MR. DENNIS: What is your heaviest sheet of yarn?

ANSWER: 2,016 ends.

SECOND ANSWER: 270 pounds back roll, 450 pounds front roll.

THIRD ANSWER: 475 pounds front roll, 260 pounds back roll.

FOURTH ANSWER: 350 pounds back roll, 450 pounds front roll; 22s, average 2400 ends.

MR. DENNIS: Somebody else? The heaviest sheet of yarn we had reported was 6,000 ends, 4½s to 18s. I suppose that is what they were using the 6,000 ends on. They were using 360-pound roll, but have ordered 500-pound roll. Is there anybody else, who would like to give us the weight of their squeeze rolls? Is there any further discussion on that as to the merits of the different weights? Would somebody like to ask a question? If not, we will pass on to the next question.

QUESTION: I would like to ask what is a squeeze roll used for—to squeeze the size out or to squeeze the size in? (Laughter).

JOHN W. KLINCK (Augusta): I would like to ask whether anybody has ever tried rubber squeeze roll, and what the objection to it is? I have thought a good deal of it, and wondered why don't it work?

MR. DENNIS: Let's find out about this "squeeze out and squeeze in" first. Will somebody help us out on that? Do you get more size with a heavier roll or less size? That is, what percentage of size is put on or in the yarn?

ANSWER: That would depend upon speed as much as anything else.

MR. DENNIS: With the same speed would you get more size into the yarn with a heavier roll or less?

ANSWER: That would depend upon the nature of the size.

MR. DENNIS: All other conditions being the same?

ANSWER: I would not want to commit myself.

MR. DENNIS: Will you gentlemen give the name of your mill, when you speak, so as to get it into the record? That makes it a much better record.

W. H. EPPS (Jefferson): I would like to know why that man ordered that 500-pound roll? What size did he have before he ordered it?

ANSWER: 360.

W. H. EPPS: Why did he order the heavier roll?

MR. ASBURY: We had one 500-pound roll, which we are using now. We find that we get better yarn, and the size penetrates the yarn and you get a much smoother coat. It is like a woman ironing, and the difference is whether she uses a heavy or a light iron, and whether she presses hard or light on it. We find that in using a 500-pound roll

whether 4s or 18s we get a better cloth and the size penetrates the yarn better. Therefore we are getting a 500-pound roll.

QUESTION: Did it give you an increased or decreased weight in the percentage of size?

MR. ASBURY: We have not made any accurate tests. From observation it is a much better and smoother coat and better penetration.

QUESTION: Is there any difference in the shedding under the loom?

MR. ASBURY: It sheds less with a heavier roll.

QUESTION: I would like to ask what kind of work was that and whether white or colored?

ANSWER: White, colored, waste, or anything.

MR. DENNIS: Is there any other idea you would like to get over now in regard to this weight of squeeze roll?

MR. HUGHES: There has been quite a lot of discussion in regard to size rolls, heavy and light. In my judgment it depends largely on the kind of weave a fellow is running. Is he runs a coarse or light weave, he don't mind so much having his yarn coated, heavily jacketed. That's what you get from a light squeeze roll, but when the diameter of the roll is small, the size has a tendency to slip through, it goes through roughly on the yarn, and the yarn is not smooth. With a larger diameter roll it gives you more surface to keep a big portion of the size back further from the finishing edge of the roll, as it comes to it. If you are running high count—it matters not so much about the number of the yarn, but say you are running 118 counts; take 18s yarn making 118 counts in the warp, 72 in the filling—you have got to put size in that yarn. You cannot put it in on the outside, and hope to get it through there without balling up, and by using a heavier roll you get a better penetration, a smoother yarn, and a yarn that does not ball up providing you use enough cushion. When you put on a heavier roll you have got to use more cushion, but it gives you more ironing surface or smoothing surface. In find in using my method of blanketing it will give you that, and I will give it to you, whether it is worth anything or not. I use 4½ yards of blanket on a 500-pound roll. I turn my blanket twice, and then I take that blanket out. Putting this old blanket, that I have taken off of this finishing roll, onto the roll first, then applying four yards on top of that. That leaves you about—I will say—2½ yards. It depends on what you cut off. If you don't wear that blanket out, and then leave that blanket there, it acts as a cushion. Apply that blanket first to the roll; then put your four yards of new blanket on top of that, and you get a dandy good finish on your yarn for high count.

MR. DENNIS: Mr. Epps, did you get the answer to your question?

W. H. EPPS (Jefferson): I think I did. I am not sure.

M DENNIS: Has anybody else a question he would like to ask?

The next question is:

How do you overcome slasher waste?

I don't think any of us entirely overcome slasher waste. I think that question to be properly worded should be "How do you control it so as to keep it down to the lowest possible minimum?" That is a very interesting proposition, and one, on which we should get up some very good discussion.

One mill took the question literally, and said they didn't overcome it, but they did weigh behind each slasher man and kept a record.

Another mill says they do it by watching the little things. If we could get them to amplify that statement, I think perhaps we might get something very good after the little things and lots of them. They have got a very low waste behind the slasher. If anybody present recognizes his answer to the question, and will speak out on that, we would like to have him do it.

Another mill says "We are running section beams right on warpers, and pulling broken ends, when set runs out. Use three pieces of gum paper instead of two."

Can anybody give us a description of their method of controlling slasher waste? Necessarily it would include discussion of the system of setting the clocks at the warpers, how the responsibility is fixed there. Slasher waste not always can be laid on the slasher man. I might say, to get the ball rolling, that we weigh behind each set. At the end of each set of yarn is a complete report made showing the pounds of raw waste, pounds of hard waste, and percentage of weight added to the yarn. We of course know the number of beams per set, that are creel behind the slasher, and in that way we roughly calculate the weight of the waste per beam. If you have a 9-beam set on a creel, and 9 pounds of waste, of course it would be a pound to the beam. We like to come under a pound to the beam with our waste. This is on 26s and 32s yarn.

Will somebody else give us their experience on that, as it might help us in determining how far off of the line we are. One man said last night he averaged on coarser yarn than we have about six tenths of a pound per beam. Will somebody else give us his experience on that now? How many keep an accurate record or tabulation of their raw waste and trace it back? (Just one or two raised their hands.)

MR. STEELE: When the first end is broke on the first beam, necessarily all that yarn thrown over is good yarn. All that yarn, that goes through the beam, is good yarn. We don't stop when the first end breaks. We let them all break until they get to the release rod, and then we pull out; so that we save that good yarn, that is left on the squeeze roll.

MR. DENNIS: You mean the beam on the front?

MR. STEELE: In that way we make from one-half to less than one-half a pound of waste to the beam, 9 beams to the set.

MR. DENNIS: Your yarn number is about 22?

MR. STEELE: 24½s. I do think

that the waste on the slashers depends a great deal on the way your warping is done. We try to set our warpers so our beams will run out practically the same thing. We have reduced or warp end waste in the weave room by half.

QUESTION: Do you break any ends off, so as to stop your loom and save your pattern?

MR. STEELE: No sir. We let it run right square out, and, if it don't run out, find out why.

MR. DENNIS: Anybody else?

W. H. EPPS (Jefferson): Do you make your warp beams run out alike? (Laughter).

ANSWER: No; they don't run out all alike.

MR. DENNIS: Will somebody else give us their experience on that? Has anybody here changed from warpers, that measure from the measuring roll, to warpers, that measure from the drum, and do they notice any difference in their run-outs as a result of that change, and which will give the best run-outs? I think a good many of the new type warpers measure from the drum.

V. J. THOMPSON (Manchester): We get a better run-out from the drum than the other.

MR. DENNIS: Is there anything else to come up in regard to this slasher waste? If not, we will pass on to the next question, which is:

"What is the best method of determining the proper amount of moisture to be left in the warp, when it comes from the slasher? What is the best method of determining the amount of moisture, which is actually left in the warp?"

In other words, that is a double question. First, what is the best method of determining the proper amount? Most of the answers here give as their experience on that that they have some rule of thumb, which they attempt to estimate the proper amount to leave in the yarn. Will somebody give us their rule on that? I think almost every slasher tender has got his rule, that he goes by, principally by feel, sometimes by watching the steam as it rises from the yarn in the small cylinder; some by the feel of dryness; some by the feel of temperature. One answer says "The warp must come over cool." I think, if it is cool, it is still throwing off a little bit of moisture perhaps. I have felt a lot of warps, that were not cool, and yet, when I made tests of them, they had percentage of moisture in excess of what they should have had. Let's have somebody's rule on that. Let's try to classify that. How many go by feel entirely? (One raised his hand.) How many have some other rule for this? (No response.) You fellows had better answer, for I am going to ask an embarrassing question in a minute. How many have some other rule than the rule of feel? (One raised his hand.)

A MEMBER: We have temperature control on our slashers.

MR. DENNIS: You go by temperature control?

ANSWER: Yes sir. We have about 6½ to 7 per cent moisture in our yarn. We take it and weigh it with the moisture in, and weigh it

again with the moisture out, and I am pretty certain we are leaving about 6½ to 7 per cent moisture in it. The slashers are speeded and the temperature set according to the amount of moisture we want to leave in the yarn.

QUESTION: Do you find that gives the best results in weaving?

ANSWER: We are still experimenting with it. We were trying to save a little on material, and we got balled up on our waste. We made a mistake on that. I have gradually gotten back until I am making a good warp.

Shortly after we started that temperature control business the temperature business the yarn felt as rough as the devil. We talked to the slasher man about it, and he said he didn't know what was the matter with it. I kept adding more tallow, and it didn't get any better. I got to noticing streaks on the cylinder. When the yarn would come over, it would make a streak. People got to complaining about that. I went to the spinner about that, and the weavers got to kicking about it. When I did discover what the trouble was, it was the jacket I used. I was using a closely woven all-wool jacket. We put on one not so closely woven, and used that, and it remedied the trouble. It runs as nice as anybody wants it to in the weave room. That's why I asked the question "Does the squeeze roll squeeze the size in or out?" I contend it squeezes the size off the yarn. That jacket, that gave us so much trouble, would not only squeeze the size off, but left the size on the whole complete revolution of the roll. I contend it squeezes the size off the yarn. I am under the impression that it squeezes the size off rather than in, and the penetration you get you get from the heat you have in your size box.

MR. DENNIS: Let's hear from somebody else. What other rules have we for determining the proper amount you want to leave, or the proper amount you should leave, in the yarn? One of the safest rules I think I have ever heard explained at all, and a rule I try to go by, is to watch the steam as it leaves the small cylinder, and when the yarn is in position in the small cylinder, if there is still a small amount of moisture, a small amount of steam, leaving the yarn, there is very little chance of your yarn baking from that point on until it leaves the cylinder entirely. If there is no steam arising from the yarn in the small cylinder, the yarn is baking during its entire contact with the cylinder, and we are driving too much of the moisture out of the yarn. That is a rule of thumb, that is very simple, and it has worked. By feel too we know, and if we observe that there is a small amount of steam left in the yarn or leaving the yarn as it travels around the small cylinder, we know that there is proper moisture in the yarn.

Is there anything else you would like to bring out in connection with this question?

F. E. HEYMER: I have got a very simple method. I don't know whether it is a rule of thumb or not. When I go around my slasher dur-

ing the day, I wipe my hand on my breeches until it is perfectly dry. I feel the work, and if I feel any moisture on my hand, I have sufficient moisture in the cloth. It is a very simple method. I cannot tell positively what percentage there is in there. It is simply a method I learned years ago, when I served my apprenticeship, and I find it is effective. What percentage it is I cannot say. I never have made a test yet.

MR. DENNIS: Will somebody else give us their rule? Is there anybody, that goes by a pressure gauge is the right thing to judge by? (No response).

We will pass on to the next question, which is:

"What kind of size pumps do you use—low speed, rotary, plunger, etc.—and do you have trouble with size leaking around the stuffing boxes on these pumps? If so, give some of your remedies."

I think that is not so much a question of the make of size pump as the type plunger type, gear type, and rotary type. One mill reports that they have a gear pump and a rotary pump, and they like the rotary pump best. Another mill says they have a plunger type pump, and overhaul it about once a year, and avoid leakage.

Another has a rotary.

Another has a low-speed rotary.

One has a centrifugal pump, and does not have a great deal of trouble with size leaking around the stuffing boxes.

Another one is using both the plunger and the centrifugal.

I don't see that we can get so very far with that question, unless somebody would like to ask some particular question about the advantage of one type over the other. Maybe some one is having trouble with the pump he has, and for that reason would like to know something specific about this question. Somebody submitted it, and turned it in, and I presume had a definite problem in mind, when he did it. Whoever did it, if he would like to ask a question about that now, we would like to have it, so as to bring out the point, that he wants brought out in regard to it. (No response.)

We will pass to the next question, which is:

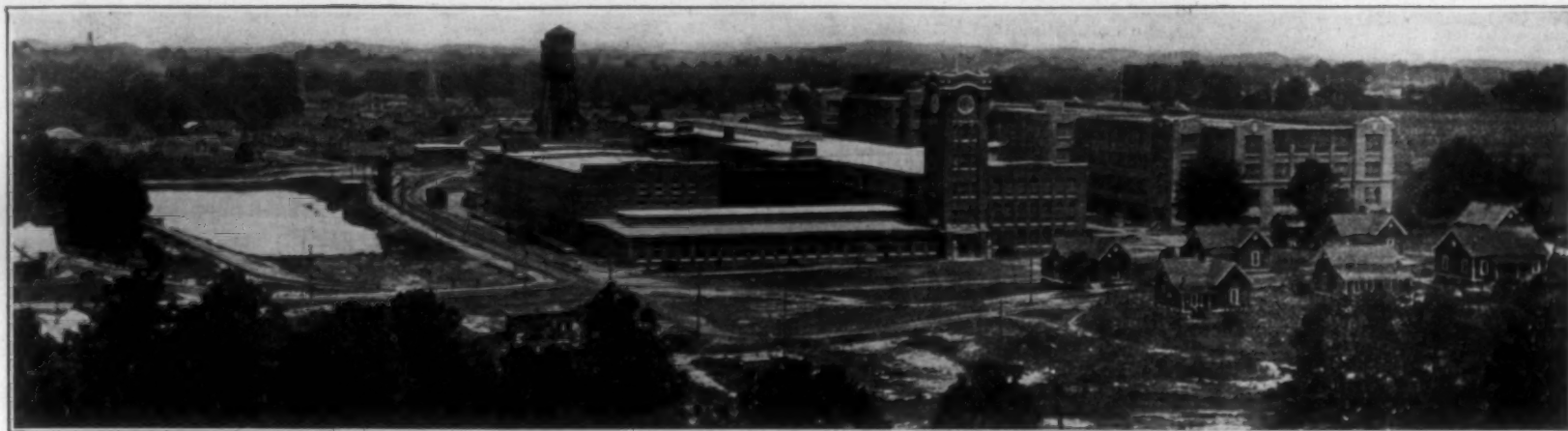
"What success do you get out of using a heavy cotton blanket on slashers as a filler for slasher flannels weight about 3.00 yard?"

This is not the jacket on the outside of the blanket, but the filler of the blanket, that goes in next to the roll. This party wants to know what success they get out of using this cotton sheeting as a filler for the blanket. Let's hear from somebody about that. I don't think the weight makes so very much difference. We generally use what we can get the easiest. Some of us do not make cloth, that would be suitable for that. I think there is some variation in the practice as to the weight of the goods used.

A MEMBER: I use a cotton blanket on the back roll entirely. The front roll has a blanket a mixture of cotton and wool.

(Continued on Page 12)

LINK-BELT Service Records In Southern Mills



Exterior View of the Winnsboro Mills, Winnsboro, S. C.

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SILENT CHAIN DRIVES

Georgia Meeting

(Continued from Page 10)

A MEMBER: We use a plain wool blanket.

MR. DENNIS: You would use a greater length of cotton blanket than wool blanket?

ANSWER: Yes.

JOHN W. KLINCK (Augusta): We put a cotton blanket, then a burlap filler, and then we put on about six yards of cotton blanket. I am not recommending that practice as whether good or not. That is what we do, and we get the sizing on that work, that we want. We make indigo blue goods.

MR. DENNIS: You use cotton next to the iron, then burlap, and cotton on the outside?

MR. DENNIS: Will anybody recommend that to him? At one meeting I tried real hard to get somebody to recommend a certain thing, but I didn't succeed. Finally after two months I found a man, that would recommend it, and I tried it on his recommendation, and the test was so successful that I am using it entirely now. Sometimes a thing, that seems most unreasonable on its face, might be a very good thing to solve the problem we have. Maybe the gentleman there would feel the same way about his problem. If somebody would recommend that rubber roll to him, he would try it out and see.

JOHN W. KLINCK (Augusta): With this indigo dye yarn you can't use an all-wool blanket. The rubber roll might be a step better than cotton, and not have any cotton at all. In order to get a lot of size in the yarn, it appears that the wool cloth is better, but we have tried this all-wool blanket with this indigo dye yarn, and we cannot use it. In regard to this rubber roll, I am going to buy one, and let you folks know about it. Somebody has got to be the goat.

MR. DENNIS: Let's hear from somebody else. I think we can turn this question into a general discussion as to what is the best practice for covering squeeze rolls, not only considering the cotton filler underneath, but discussing the best practice of covering the squeeze rolls on your slashers. The gentleman there uses cotton and burlap, and I presume, where you have the wool, you have the cotton, burlap, and wool?

MR. KLINCK: It is a cotton and wool mixture. You cannot use an all-wool blanket, for indigo has a lot of alkali in it, and it eats up the wool, and you can't keep the wool on there.

MR. DENNIS: Let's hear from somebody else. I don't believe we have got an answer as to the advantage of using the heavy cotton blanket. I think that was discussed in the Executive Committee meeting last night, and the most of the members of that committee (in fact all of them I believe) use the cotton as a filler for the wool blanket. The general practice, as I understand it, is to put that on, and lead it heavily, so as to keep the moisture away from the iron part of the roll, and in that way keep it from rusting. Naturally it is necessary to take the

cotton off after a while, and take a light cut on it, so as to smooth it up again, and re-lead it, and cover it with cotton sheeting again. If anybody has got a practice different from that now, that he would like to recommend, we would be mighty glad to hear from him.

Some of the answers we have to the questions are to the effect that the flannels last longer where they use the cotton blanket that they get a better, smoother, and better feeling yarn.

Another says by using a heavy cotton blanket you form a cushion for the squeeze rolls and do not take chances on making your yarn flat. This man evidently thinks that the cotton is as important as the wool covering for the roll.

Another mill says "We use a cotton blanket next to the roll, and our only reason for this is to get the blanket onto the iron roll, and the color takes a better hold than anything else we might use." Another mill says "We do not use the heavy cotton blanket on the slasher as a filler." I believe that's the only mill, that reported not using it.

The gentleman over here wants to know if there is anybody that runs the beam from the creel all the way over the top instead of winding around the different beams in the creel?

V. J. THOMPSON (Manchester): We run ours all over the top.

A MEMBER: We run ours all over the top.

F. E. HEYMER (Columbus): We run ours over and under. If there is a better method, I would like to know it.

A MEMBER: I contend that there is no control over the waste in running it over and under.

V. J. THOMPSON: We have less waste when we run ours over the top than the bottom. Besides each beam has the same tension on them.

MR. DENNIS: You have some special arrangement for that?

MR. THOMPSON: Yes. The yarn comes over the ball-bearing roll. When one later gets tight, it releases the friction on that beam, and we don't have any trouble with one beam running out ahead of the other.

MR. DENNIS: Do you have any more trouble holding your ends, when you run straight over, compared with winding around?

ANSWER: No sir.

QUESTION: You run your heavy sheets of yarn straight over as you do your light?

ANSWER: Yes sir.

QUESTION: I would like to ask, if you did not have a special device on the slasher, would you run it over the top?

MR. THOMPSON: I don't think we would.

MR. DENNIS: That is a patented device. I am sure he would be glad to explain that to somebody who is interested. It is a patented device.

A MEMBER: In Scotland and in parts of this country they always generally run over the top, and they don't have any laps cut.

QUESTION: Do you think that is on account of less tension on the yarn?

ANSWER: Yes.

MR. THOMPSON: Is anybody using corn and potato starch mixed in making their size?

A MEMBER: We use 25 per cent potato starch and 75 per cent corn starch.

QUESTION: Do you find that that gives a better feel?

ANSWER: Yes.

QUESTION: And that is gives more strength?

ANSWER: Yes.

QUESTION: Is there any difference in the shedding?

ANSWER: No, not a bit.

W. H. EPPS (Jefferson): We use 25 per cent potato starch and 75 per cent corn.

A VOICE: You mean corn starch? (Laughter).

MR. DENNIS: Is anybody else using potato starch?

J. W. HAMES (Atlanta): Are you



Frank S. Dennis
New General Chairman
Textile Operating Executives of
Georgia

using thin boiling starch or thick?

ANSWER: Thick.

MR. DENNIS: Is there any other question in regard to that now?

QUESTION: I would like to ask what number of yarns you are making and the object of using potato with corn starch?

ANSWER: 24s. The object in using potato is on account of the feel. It gives more or less elasticity to the yarn in the weaving. We feel that the potato starch penetrates probably a little bit better.

MR. DENNIS: What was your experience, Mr. Epps?

W. H. EPPS: We got better breaking strength and we got better results. We use thin boiling starch.

QUESTION: Did you use it for better running work or improved feel?

MR. EPPS: I use it for all, and I think we get it.

F. E. HEYMER: Four months ago I made an experiment with tapioca starch, using 25 per cent of the tapioca starch and 75 per cent of pearl starch, thick boiling starch. My object was to get a better feeling warp. In that connection I would like to ask if any present here have ever tried to reduce the thick boiling starch by using a reducing agent?

By using that tapioca and thick boiling corn starch we have wonderfully improved our run-off conditions in the weave shop. Mr. Stephens can bear that out. We have got a much better feeling warp, and evidently we get a better penetration, making our yarn stronger. He

can speak for himself as to his production, and as to what it has done to his weave room. I am pleased with that trial, and since then I have adopted it altogether on our colored work.

QUESTION: What proportion of tapioca starch are you using?

ANSWER: 25 per cent tapioca starch and 75 per cent pearl starch.

MR. DENNIS: Has anybody else got an experience he would like to give? One other starch commonly used in the sago. Is anybody using a blended starch, sago and corn or tapioca, or corn and any other kind, that has not already been given?

Are there any further questions now on slashing? If not, we will pass on to the questionnaire on

Weaving.

(Discussion led by Vice General Chairman Frank S. Dennis, Lafayette, Ga.)

Before starting the discussion on weaving, I wish to state that, if any questions have come to you, or do come to you, and you would like to submit them for the meeting this afternoon, put them on a piece of paper, and turn them in.

The first question on weaving is:

"What would cause a loom to make shuttle marks and keep running?"

I think we can get lots of answers to that question, and I think we ought to get a lot of them because there are lots of things, that can cause it, according to the answers, which we have received, and also



J. W. Hames
New Member Executive Committee

according to the experience that a great many of us had on that question. I might clarify this question by saying that it refers of course to a bobbin changing loom. It does not refer to a plain loom or shuttle changing loom, but to a bobbin changing loom. When the change takes place, or the filling breaks, the loom, instead of stopping, will keep on going, and make a shuttle mark or a partial mis-pick.

Let's have some answers to that. Mr. Philip is going to tabulate the different reasons advanced for it, and I think it will be very interesting for many of us at some time, when we get in trouble, to pick up this subject and read it, and it will be very helpful to us. Let somebody give us one case. We want to trace back into the fundamental cause of this difficulty. One of the answers is the filling breaking or the fork out of fix. Then the question arises, what is causing the filling to

(Continued on Page 36)

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Soap and Its Relation to Hard Water in Dyeing

THE following article is from Bulletin No. 1, issued by the Textile Research Laboratory of the Procter & Gamble Co.:

In those processes in the textile industry where soap is used, the quality of the water in which it is used is of outstanding significance. Water is one of the most important of the chemicals in dyehouse use and every dyer knows what an essential part it plays in his work. He does not need to be told the handicap under which he operates when he is forced to use "hard" water, for he knows from experience that soap spots, uneven dyeing, whites that turn yellow, and many kindred troubles can frequently be traced to hard water and its action on soap.

There appears, however, to be a slight confusion as to what is meant by "hard" water. The term is, of course, relative. Any water must be considered hard if it contains an appreciable amount of dissolved impurities which have the power of curdling or precipitating soap. The most common of these impurities are the salts of calcium, known as lime, and those of magnesium. Of course the greater the quantity of these salts present, the harder the water, but even very small quantities often cause trouble. Pond water, for example, is considered soft by most dyers and while this water, running about one and a half grains, is, relatively speaking, fairly soft, yet it frequently causes soap spot troubles.

The relative hardness of water is expressed by the term "grains hardness" which means the number of grains of calcium carbonate, or its equivalent in other impurities, present in one U. S. gallon. One grain or degree, as it is sometimes called, is equivalent to approximately 0.065 gram or 0.0023 ounce of calcium carbonate. Sometimes hardness is expressed as parts per million though the former expression is perhaps more easily visualized. The relation between the two expressions is simple. One grain hardness equals approximately 17 parts per million.

The amount of soap that a hard water will use up can be calculated if the relative hardness is known. For example, in an open box holding 1500 gallons of 3 grain water there is in solution about 10½ ounces of calcium carbonate or lime which will destroy roughly 5 pounds of soap. The cost of this soap is a small matter. The real cost is measured by the trouble caused by the lime soaps that are formed.

In order to understand the action of hard water on soap and to realize fully the consequences of this action let us trace a "piece" of silk from the boil-off to the finish.

Boil-Off.

The box is filled with water of a certain hardness, soap is added and the steam turned on. As soon as the soap dissolves it reacts with the lime in the water as follows:

Soda soap plus lime salt equals lime soap plus soda salt.

The lime soap that is formed is very insoluble and therefore natu-

ally tends to separate from the solution. There are, however, some peculiarities about the manner in which the separation of insoluble soaps takes place, depending on the relative amounts of soap and hard water present. Unless an excess of soap (regular soda soap) is present, the insoluble soaps form in flakes, some of which combine into curds and come to the surface. This happens when fabrics holding soap from a previous soaping operation are placed in hard water. If, however, the insoluble soaps are formed in the presence of a considerable excess of soap, they become so finely divided that no separation, in the sense of settling out or coming to the surface, occurs. Thus, in the boil-off, where there is a large excess of soap we see little or no sign of the lime soaps formed by the soap and hard water. Even though they are present, they are so finely divided that the soap holds them in suspension. Thus they cannot adhere to the goods. Consequently there is practically no soap spot trouble originating in the boil-off.

Rinse or Wash.

After stripping, in order to have the goods dye evenly, the soap must be rinsed from the fibres. The pieces coming from the boil-off hold a considerable amount of soap both on the surface of the goods and intimately coating each filament, penetrating in between the twist in the fibre. It is even possible that the fibre itself has been penetrated to some extent. When these pieces are placed in the rinse box containing hard water the lime in the water quickly reacts with the soap on and in the fibre, this time under conditions different from those of the reaction which occurred in the boil-off. There we had a large excess of soap; here we have merely that held by the silk. The lime soap, therefore, precipitates in the form of small flakes adhering closely to each individual cocoon filament. These insoluble lime soap flakes trapped between the twist and the closely assembled fibres naturally resist attempts at mechanical removal. The lime soap precipitated on the surface of the goods, of course, comes off more easily and floats on the top of the rinse box in the form of the curd or scum familiar to every dyer who has had to deal with hard water. If the water is not very hard there may be enough soap in the goods to more than react with the lime in the water, in which case the lime soap precipitated on the surface of the goods will emulsify and not show up as scum or "cheesy" precipitate on the surface. Even in that case, however, there are flakes precipitated in between the twist and on the interior filaments.

This point should be understood clearly; namely, that when fabrics containing soap strike hard water there will be flakes of lime soap precipitated between the twist and between the filaments of the cocoon fibres, as well as on the surface of the goods. Whether or not scum or precipitate appears on the surface

of the rinse water you can be sure that a certain amount of lime soap in the form of flakes is trapped in the goods.

Assume now that the pieces are taken out and placed on the shelves to await dyeing. As the flakes of lime soap in the fibres dry out they become fastened more securely. Preparatory to dyeing, the goods are usually given a rinse in the dyebox, this serving merely to remove mechanically some of the lime soaps which again come to the surface as a scum. The dyer usually runs the water over the top to wash away most of this scum, but small pieces of it ranging from a sixteenth of an inch to an eighth of an inch in diameter cling to the fabric, and being light in color are not readily seen at this stage. These small curds, together with the much smaller lime soap flakes still remaining trapped between the filaments, will now resist almost any number of water rinses. Consequently, additional rinses are not of great value.

Dyeing.

The rinse water is dropped, a new water is entered and heated and dyestuff is added. Assume first: Direct, or Neutral Dyeing (acid colors to be dyed on a light soap bath). As the dyeing progresses, the small curds of lime soap which were picked up by the fabric in the rinsing operation usually take a deeper shade than the goods, since they have an affinity for these classes of dyestuff. The more finely divided flakes within the goods are dyed also but since they are so small and are more or less evenly distributed through the goods they do not show up.

After the shade has been reached, a wash is given followed by a light acetic acid bath. The acid usually cuts the finely divided lime soaps within the fibre so that these are removed, but is not strong enough to affect the curds which have adhered to the goods. In the relatively high temperatures of the dry house these curds break down and turn very dark causing the small black specks familiar to every dyer and known as "soap spots."

As mentioned above, the light acid bath following the dyeing took care of the finely divided lime soaps within the goods. If this acid is omitted, as sometimes occurs if entire absence of scroop is desired, these untreated lime soaps present in the inner fibres also break down at the drying temperature with the result that the cloth develops a marked rancid odor. It has also been noticed that white fabrics develop a yellow cast from the same cause.

Acid Dyeing.

If the pieces are dyed with acid colors on an acid bath, trouble from soap spots rarely occurs. The acidity of the bath and the time and temperature used are sufficient to destroy most of the curds picked up in the rinse. If, however, the quantity of lime soap precipitated in and on the goods is large, the fatty acids liberated by the action of the acid

on the lime soap may cause oil spots, uneven dyeing, or both. The action of the acid on lime soap is:

Lime soap plus acid equals fatty acid plus lime salt.

The fatty acid thus formed floats on the surface like an oil and is apt to be picked up by the goods. This may cause a marked unevenness depending upon how far the dyeing has progressed when the oil is picked up. In any event it is apt to show up as dark spots, called oil spots, which must of course be removed before the goods can be properly finished.

The foregoing facts are known in a general way to most dyers and naturally every dyer is interested in a practical means of protection against lime soap troubles.

The best way, of course, is to eliminate the cause of these troubles by using soft water. The ideal method of softening hard water is with a zeolite system which, assuming adequate installation and proper attention, provides water of zero hardness and gives complete freedom from lime soap troubles. Such installations, unfortunately, are not always of sufficient capacity nor do they always receive the proper attention in regard to regeneration. It is not uncommon to find a softener of this type delivering water of a grain or more hardness. This is not the fault of the system, but means merely that the rate of flow has been too high or that the mineral is exhausted and requires regeneration. Another pitfall is found in the standard soap solutions which are used for checking the system. If the solutions are old and have become concentrated by frequent exposure to the air they will indicate that the water is soft when in reality considerable hardness exists. In other words, the presence of a zeolite softener is not an absolute assurance against hard water troubles. These systems provide protection only when they are given the proper attention. This word on zeolite softeners is for the benefit of dyers who have such installations in their plants and yet occasionally have spots on their goods.

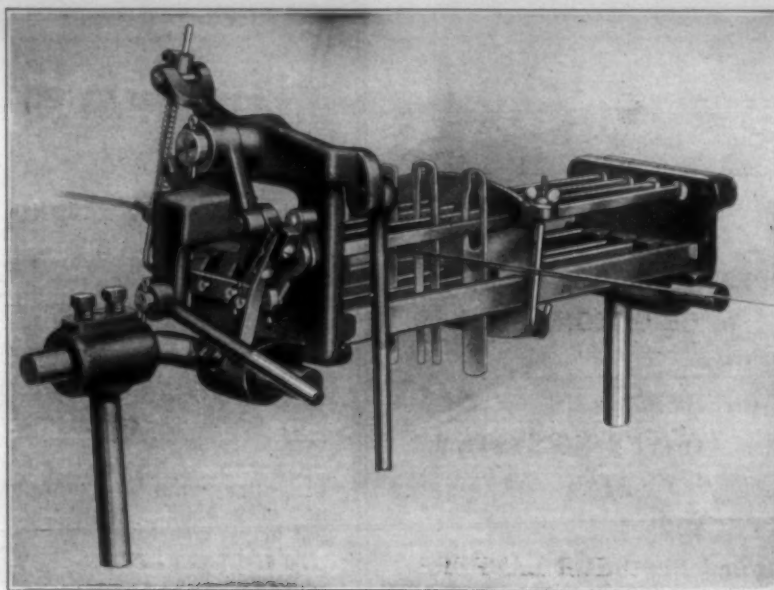
In many plants zeolite softeners are not present and the dyer must cope with existing water conditions by some other method. One of the methods employed to correct the hardness is the use of soda ash or sal soda crystals. This practice for silk is not to be recommended. Quantities safe to use do not afford much protection against the precipitation of lime soaps and, furthermore, if these materials are used at a high temperature, a harshening and yellowing of the fibre occurs, resulting frequently in chafe marks.

A practical method has been worked out which is entirely safe to use and highly efficient for the treatment of hard water. This method involves the precipitation of the lime and magnesium salts in what is known as a colloidal suspension, that is, in such a finely divided state that they will neither settle out nor rise to the surface. In this

(Continued on Page 35)



Mechanical Warp Stop Motions



Nearly 15,000 sold during 1925

For:—

COTTON

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(Protected by patents)

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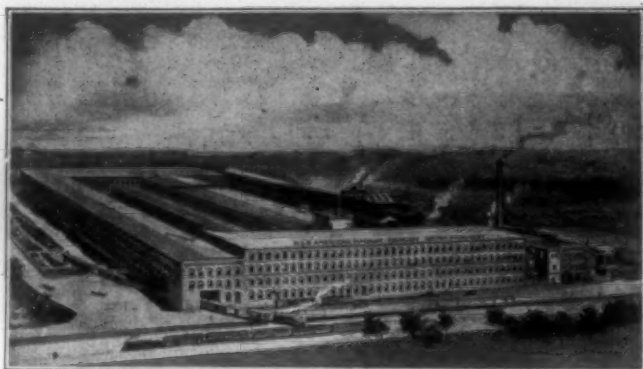
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COTTON MACHINERY



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ROVING WASTE OPENERS
BUCKLEY OPENERS
COTTON CONVEYING SYSTEMS
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INTERMEDIATE and FINISHER LAPPERS
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DRAWING FRAMES
(Mechanical or Electric Stop Motion)
SLUBBING INTERMEDIATE
and ROVING FRAMES
SPINNING FRAMES and TWISTERS
(Band or Tape Driven)
SPINDALES—FLYERS
RINGS—FLUTED ROLLS

Write for descriptive Bulletins

H & B American Machine Co.

Pawtucket, R. I.

Southern Office

814-816 Atlanta Trust Co. Bldg.

Atlanta, Ga.

Visiting Europe

By David Clark

(Continued from last week)

When I returned to London, on the night of June 28th, from Manchester, I found a note from Mrs. Clarking stating that the Regent Palace Hotel had stated that if we gave up our room, we could not get any others until July 20th, as everything was reserved, and that she decided to keep the rooms we had and to pay for them while we were away. I have never seen a hotel in New York or elsewhere that did as big a business as that hotel in London.

Mrs. Clark left, together with Mr. and Mrs. H. C. Jones and Miss Burbank, the other members of our party, the day after I went to Manchester, for Scotland and they returned the day after I got back.

They went to Glasgow, Scotland, and then in a tallyho across to Edinburgh and then took a sleeper back to London.

They said that Scotland was a beautiful country but on the trip from Glasgow to Edinburgh they had seats on the top of the tallyho and it rained hard twice during the trip.

Back in London, we took things easy for the remaining days and enjoyed seeing the sights in that city, which is the largest in the world.

One day I attended a meeting of the Rotary Club of London and met not only a fine lot of Englishmen but many Americans.

Another day I accepted an invitation to address the Rotary Club of Kensington, England, where they heard me with close attention and gave me a warm welcome.

When the English want to applaud they do not clap their hands but cry out hear! hear! That is just another place where their customs are different from ours.

Every night and no two after noons we went to the theatre and saw some good plays. The English are fine actors but their musical comedies are poor.

On Saturday afternoon at 6 o'clock we took a fast train to Southampton and the first man I saw or heard when I neared the boat was Walter Pratt.

Walter had been attending a house party in southern England as the guest of E. M. Sykes, and arriving ahead of our train from London, had found a delegation from the Rotary Club of Southampton waiting to tell us good-bye.

By the time we reached the boat Walter knew them all; in fact, he seemed to be master of ceremonies.

We sailed at 10 o'clock that night on the Cunard Line Caronia, which was a sister ship and a duplicate of the Carmania, on which we went to Europe.

On board were many with whom we crossed and many that we had met at Ostend or at other places in Europe, and we enjoyed the trip back, but everybody was somewhat tired and there were no such activities as were on the Carmania going over.

Ray Van Nest, of Niagara Falls, N. Y., who had been my "deck golf" partner going over and had enjoyed assisting me in making Walter Pratt play shots from under the life boats, was on board, as was Walter Pratt's partner, Eugene Muggleton, of the same city, and we immediately laid plans for some more battles but found that they did not carry any deck golf sets.

We, however, staged some shuffle board contest that attracted large galleries.

Rough weather came on, however, and we did not get a chance to play much.

About three days out from New York we ran into heavy fog and had to cut our speed from about 440 miles per day to about 385 and the fog horn blew day and night.

When a ship is traveling in a fog it is necessary to blow the horn every three minutes in order to warn approaching vessels, but it gets awfully tiresome.

As we were seated at lunch the day before we landed, Walter Pratt was handed a wireless message stating that his wife was seriously ill in a hospital and was awaiting his return before submitting to an operation.

The ship officers were very kind in arranging for Walter to be the first to leave the ship and in helping him get through the customs.

Sunday about noon we went through medical inspection and then filed our declarations of articles subject to duty.

That did not trouble me much, as the European robbers had made it impossible for us to buy much junk and we had less than the amount that could come in free.

When you leave your ship you take a stand at the letter corresponding to your name and wait there for your baggage. When you have it all a custom officer inspects same.

I happened to draw a good one and he made very little examination of our baggage.

We took a taxi direct to the Pennsylvania station and secured berths for Charlotte.

Walter Pratt, who had stopped to phone his wife's doctor in Charlotte and had received good news, caught the same train.

I had enjoyed my six weeks' trip to Europe but was happy to know that I was on my way home and felt like saying in the words of Henry Van Dyke:

"Tis fine to see the Old World, and travel up and down
Among the famous palaces and cities of renown,
To admire the crumbly castles and the statues of the kings;
But now I think I've had enough of antiquated things.

Oh, London is a man's town, there's power in the air;
And Paris is a woman's town, with flowers in her hair;

(Continued on Page 41)



Important from a winding standpoint —the perfect condition in which the skein comes from this Klauder-Weldon Sulphur Dyer

The yarn is properly suspended and always kept in position. Level, even results are produced with very little attention. The dyed skein has just the right "feel."

In writing about this sulphur dyer, Robert C. Boger of Boger and Crawford, large spinners, mercerizers, dyers and bleachers of cotton yarns, with plants at Phila., Pa., and Lincolnton, N. C., wrote:

"The work done by this machine could not be surpassed. We feel that Klauder-Weldon Dyeing Machinery has been a big factor in the continuance of the quality of our work. We will be more than

pleased to show any prospective customers whom you might have the fine quality of work made possible by your machines."

The Klauder-Weldon Sulphur Dyer is cast iron construction throughout. Such construction has proven that it is best adapted for sulphur work, although the machine can also be used in connection with other processes.

Capacity 200 to 400 pounds per dyeing with ample reserve capacity.

We shall be glad to go into complete details of this K-W Sulphur Dyer—also to send literature.



Boger and Crawford plant in Philadelphia. There is also a Boger and Crawford plant at Lincolnton, N. C. The latter plant is devoted to spinning. Mercerizing, dyeing and bleaching is done in the Philadelphia plant.

KLAUDER-WELDON DYEING MACHINE DIVISION

H. W. BUTTERWORTH & SONS COMPANY

Established 1820

BETHAYRES, PA.

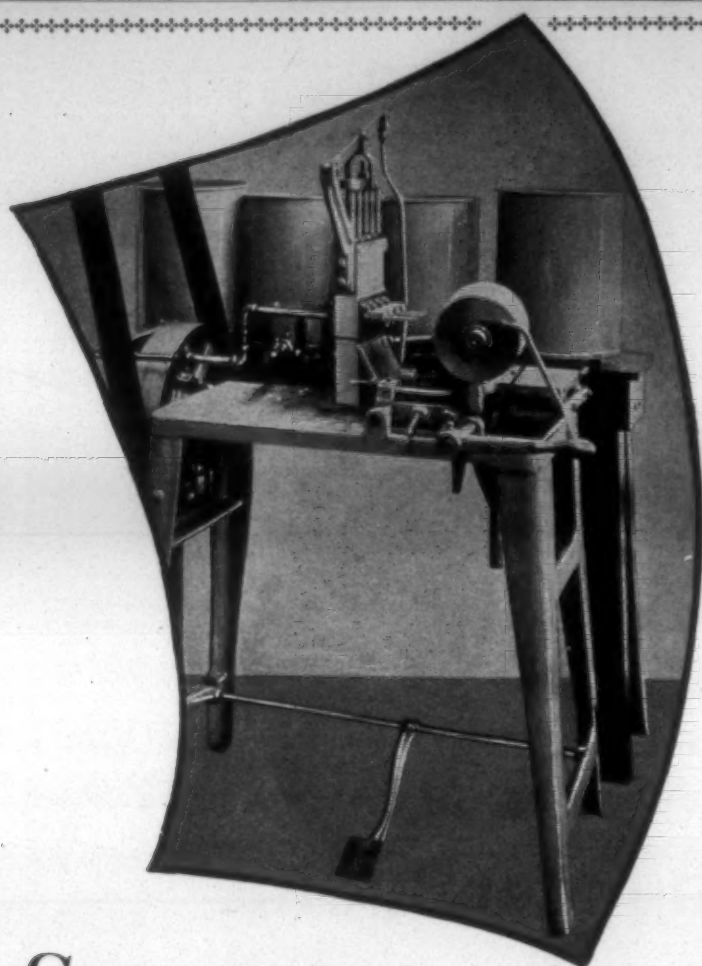
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Select Four Interesting Colors

FOUR smart colors for your woven or knitted fabrics. Four colors shot into the cone at the same time. You can depend on this new random dyer blending them smartly, interestingly. You can look for the modern-styled "impressionistic" designing—and get it. In reality, this Eclipse-Van Ness can't help creating fabrics original and startling.

You have four colors practically at the cost of one. That's because water is used instead of alcohol — water that gives the same results, the same through-to-the-core dyeing, the same fastness to light and washing. This new machine offers the cheapest method of random dyeing.

There are several more advantages that we would like to call to your attention. May we send you this additional information? Write us today.

Eclipse Textile Devices, Inc.

Makers of the Eclipse Yarn Cleaner

Elmira, N. Y.



ECLIPSE—VAN NESS

Four-Needle Random Dyeing Machine

Program for Eastern Carolina Meeting

The Eastern Carolina Division of the Southern Textile Association will hold its fall meeting at North Carolina State College, in co-operation with the textile department, Friday, September 30th.

The meeting will be called to order at 10 a. m. Friday morning with Chairman T. W. Mullen, superintendent, Rosemary Manufacturing Company, Rosemary, N. C., presiding.

The meeting will open with a short address by Dr. Brooks, president, North Carolina State College, after which the following discussion will take place.

General discussion of the uses, and limits for use of Eastern Carolina Cotton with three-quarters to seven-eighths inch staple. Also discussion of the characteristics of Eastern Carolina Cotton grown in different localities.

How fine a warp yarn can be economically spun from this cotton?

How fine a filling yarn can be economically spun from this cotton?

How fine a hosiery yarn can be economically spun from this cotton?

Discuss the settings, speeds, etc., of the machines in all processes from the bale breaker through spinning frame.

Discuss the question of waste from this cotton.

This Division of the Southern Textile Association, though young, extremely active and is under unusually capable leadership and is growing in useful service.

A good attendance at this meeting is expected and everyone is extended a cordial invitation to be present.

Textile School Enlarged

North Carolina has added another first to her progressive and progressing lists by enlarging the textile school of North Carolina State College and providing it with excellent facilities for instruction in phase of the textile industry, says a statement from Dean Thomas Nelson.

There has been set apart and equipped for the use of the textile manufacturers of the State, an up-to-date experimental laboratory that is separate and apart from the school itself. There is no interference between students in their work and the manufacturing representatives in their experiments in the various phases of cotton work.

During the whole summer the laboratory has been in almost constant use by some of those interested commercial production of cotton products in North Carolina.

Dr. Thomas Nelson, dean of the textile school at the college, believes, that the training for young men going into the textile business should have two main objects; a thorough knowledge of the business and an acquaintance with men.

To attain the first object, students taking the textile manufacturing and textile chemistry courses are taught the science and practice of carding, spinning, knitting, weaving, designing, dyeing and finishing of textiles.

They secure up to date information about growing, grading, stapling, and marketing cotton and in classes taught by a government licensed cotton grader. Mechanical and electrical courses taught in the engineering school give the students a knowledge of heating and lighting problems.

The second object is attained by giving the students a liberal education in mathematics, economics, industrial management, science, literature and languages.

Dr. Nelson said he was still receiving inquiries from prospective students. The present indications are that the enrollment this fall will be considerably larger than it was last year.

Applicants from eight States other than North Carolina and also from England and from New Mexico have already been accepted. Many of the new students are leaving literary colleges to enter the textile school at State College with advanced standing.

August Cotton Consumption 633,434 Bales

Cotton consumed during August totaled 633,434 bales of lint and 73,987 of linters compared with 569,250 of lint and 69,106 of linters in July this year and 500,533 of lint and 73,532 of linters in August, last year, the census bureau announced.

Cotton on hand August 31 was held as follows:

In consuming establishments 1,122,059 bales of lint and 172,448 of linters compared with 1,104,358 on July 31 this year and 916,786 and 122,735 on August 31 last year.

In public storage and at compresses 2,172,945 bales of lint and 44,667 of linters compared with 1,922,671 and 52,831 on July 31 this year and 1,715,371 and 38,068 on August 31 last year.

Imports during August totaled 28,041 bales, compared with 31,147 during July this year and 13,279 during August last year.

Exports during August were 340,311 bales including 18,391 bales of linters compared with 389,358 and 17,479 in July this year and 391,295 and 6,191 during August last year.

Cotton spindles active during August numbered 32,239,246 compared with 32,311,802 during July this year and 31,360,492 during August last year.

Statistics for cotton-growing States were:

Cotton consumed during August totaled 464,198 bales, compared with 415,278 during July this year and 359,494 during August last year.

Cotton on hand August 31 was held as follows:

In consuming establishments, 670,544 bales, compared with 881,885 on July 31 this year and 495,024 on August 31 last year.

In public storage and at compresses, 1,866,166 bales, compared with 1,498,572 on July 31 this year and 1,536,720 on August last year.

Cotton spindles active during August numbered 17,650,760, compared with 17,642,754 during July this year and 16,964,866 during August last year.



This Overseer Wanted to Prevent Roving Waste

This is what he wrote to The Textile American: "How can we prevent an excessive amount of roving waste being made? It seems to me as though more roving is left on the bobbins than

there should be and which is cut off the bobbins. This makes a lot of waste and cut waste reduces the quality of the yarn. I would like to learn of some method of preventing this."

July TEXTILE AMERICAN Told Him How

This is the answer that appeared in the July Textile American: "This overseer is having some trouble which can be avoided. There is now no need to cut roving off bobbins. The Terrell Machine is one of the best that has been made for this purpose and will soon pay for itself in two ways. First, by preventing cut roving; second, by preventing cut bobbins. Every overseer and superintendent knows the effect of cut roving being worked up with the cotton, especially if too much is used. Waste is an expensive luxury and I am unable to see why any superintendent will use waste with good cotton

as this tends to reduce the quality of the cotton used. There is no question about the trouble that is caused by cut roving bobbins and the sooner a mill stops this practice the better it will be for the mill. The help will have to be trained so that they will not take out a bobbin with more roving left on the bobbin than is necessary. I have seen bobbins taken out with as many as five layers of roving on them which is a waste especially if cut off the bobbins. It is up to the overseer to see that the men do their work properly and not pick up bobbins with too much roving on them."

*The TERRELL MACHINE CO. Inc.
Mfrs. Termaco, Utsman, Type K, Etc. Machines
CHARLOTTE, N.C.*

*General Supply Co. Danielson, Conn.
N.Y. and N.E. Representative.*

Practical Discussions By Practical Men

Yarn Diameters.

Editor:

What is the diameter of number 80s yarn, and what is the rule for ascertaining the correct diameter of cotton yarns? K. L. W.

Closely Woven Goods.

Editor:

When the yarn diameter is ascertained, does it mean that the total number which can be laid side by side of a given number of yarn can be woven as closely as that? For example: the diameter of number 80s yarn being 1-259" (or 1-246" with a deduction of 10 per cent), can a piece of cloth be woven with 249 or 246 warp ends laid in side by side? Centra.

27-inch Flannel Construction.

Editor:

What construction would make a good 27-inch cotton flannel napped on both sides, and to weigh 4 75-100 yards per pound? Also how should I go about to make a good flannel 36 inches wide from the same yarns and to weigh 3 56-100 yards per pound? Texas.

Bent Section Beam Head.

Editor:

I would like to ask through your Practical Discussion Page, how can a steel section beam head be straightened after the head has become warped or bent?

We have several of our warper beam heads bent and we are unable to straighten them so they will run true again.

I hope some good mechanic will help me out, by telling me how to straighten steel beam heads.

Steel Head.

Cost of Loom Supplies.

Editor:

I would like for some reader of the Bulletin to tell me what the average cost per loom are for supplies, 40-inch Northrop looms running day and night or 120 hours per week on 3.45 sheetings would like to know some rule which would help me figure this. Young Overseer.

Answer to Kentucky.

Editor:

Kentucky wants to know why spindle bands are made from roving and yarn mixed? Will be pleased to state that the roving mixed with the yarn is to create friction or pull for the band. While the yarn mixed with the roving is put there to give the band strength. An all-roving band is not strong because it will soon "shrivel" to pieces. An all-yarn band will lack pulling power or friction.

The Practical Discussion Department of the Southern Textile Bulletin is open to all readers whether they are interested in seeking information on technical questions or are willing to help "the other fellow" who has experienced trouble in some phase of his work.

The questions and answers are from practical men and have often proved extremely valuable in giving help when it was urgently needed.

The interchange of ideas between superintendents and overseers develops a great deal of worth while information that results in much practical benefit to the men who are concerned with similar problems.

You are invited to make free use of this department and to join in discussing various problems that are mentioned from week to week. Do not hesitate because you do not feel that you are an experienced writer. We will take care of that part of it.—Editor.

Kentucky also asks for a remedy to prevent bands from breaking so much. The one great reason why bands break so much, is because the band boy usually opens the eye or looped end of the band too much and then permits one of the strands to wind around the other. When this is done, one strand has to stand all of the pull and strain. A good way to prevent this, is to have the bands made with the looped end already well opened. This can be done by having the band looped around a one-half inch hook instead of the usually small hook used on the banding machine. Ind.

Answer to K. N.

Editor:

With reference to K. N.'s requirements of a fairly even carded stock yarn of number 1 50-100, and whether to be made of single or double roving. Will be pleased to advise that I would not make such a yarn as described from any roving single or double. I would make this direct from drawing sliver of 50 to 60 grains per yard. Preferably 50 grains. This sliver would equal 166-1000 hank, and with a draught of only nine (9), he would get a yarn of number 1 49-100.

The writer has made yarn of number 1 40-100 from a drawing sliver of 56 grains per yard, and with a draft of a little over nine (9) he secured a stranger yarn than when it was made of 62-100 hank slubber roving when run double, and which he broke at 740 pounds, while the yarn made direct from sliver broke at over 800 pounds. Try it! Juggler.

Answer to Md.

Editor:

Md. wants some suggestions about how to make twisters run good. At one mill I was getting a very good yarn but the ends kept breaking and the production was slow. So I started to investigate very carefully that the spindles were being oiled only once a month. The bands were to see what the matter was. I found all sizes and too loose. I started to oil the spindles each three weeks. I

made one size of bands and cut off all of the slack ones. The travelers were never being changed. I started to change them each three weeks. The travelers were also mixed. I found the spools were most always too full, so I remedied that trouble. Some twisters were going too fast. The twister tenders were cutting with knives into the rolls. They were not watching the machines closely enough, so a great many times one end would break down other ends. The ring rails were not set right. The bobbins were running over in many places at the top or the bottom. The doffers were not careful to seat every bobbin as should be done. Some travelers were way too heavy. A large number of the pins in the spindle bobbin seats were off.

Now I don't believe "Md's." twisting room can be in such bad shape as I found this room, but I hope he will find where his trouble begins by where I am leaving off. Bunged Up.

Breaking Strength of Twisted Plyed Yarns.

Editor:

When twisting yarns numbered 14½ into 2 ply and 3 ply, what should be the breaking strength per skein of 80 ends? Also, what should be the breaking strength of a single end of 2 ply and a single end of 3 ply? Winston-Salem.

Larger Roving Cans.

Editor:

Please allow me space to ask the following questions:

Why don't the machinery builders come out with a turn table for a 14-inch roving can for drawing and cans?

Could we not use a can 14x12 inches whereas we now use a can 12x36 inches?

Would a change of this kind take up too much floor space at the drawing and slubs?

Why not cut down on doublings at drawing from 6 to 5 ends up at back, make the card sliver a little heavy, card slow and get better carding?

With a larger package, would we

not cut cost, increase production and quality?

Would we cut down on waste and piecing up of ends on drawing and slubbers?

Will some on figure this out and let me know how much more sliver we could put in a 14x42 inch can than in a 12x36 inch can?

Turn Table.

Answer to Selvage.

Editor:

I would like to answer the question from Selvage in your issue of September 15th.

No. 30s yarns is used, drawn in four harness, plain weave. Would advise Selvage to take a quantity of the yarn, double and twist about 14 turns per inch, run on spools. Then put these spools on rack at the rear of the slasher, 12 spools per side. Run over top section beams to starch vat. These spools should be reeled at the end of the loom beam warp so as to avoid knot troubles. Draw in 3rd and 4th harness. This will give you two threads to reed dent, 6 dents to the selvage. If the selvage is not the right width add or take from to make the selvage the width desired. This will give you a perfectly smooth selvage that will run good on the loom. C. A. S.

Weaving Spindle Tape.

Editor:

We wish to take advantage of your Practical Discussion department to ask several questions on matters that are of interest to us.

Please advise as to the size of yarns used generally by mills in making their regular ¾-inch spinning tape? Also advise as to the twist of the warp and filling yarns used in the manufacture of this product.

What is the speed of a loom on this type work and what is the approximate production per shuttle on work of this kind per week or day?

Do you know of one or two looms suitable for this kind of work that are for sale in the South? We are interested in buying one or two looms that are somewhat used but that are still in good shape.

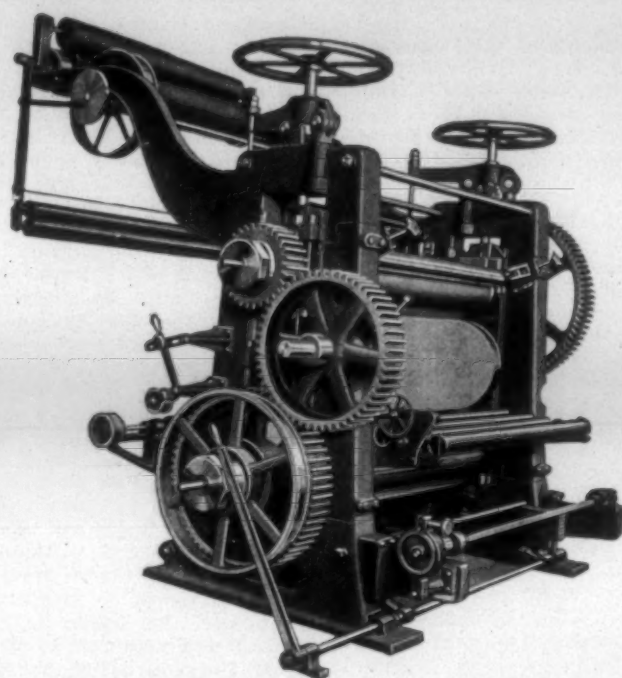
Narrafab.

Answer to Stuck.

Editor:

The question by Stuck relative to a drawing frame that is giving him trouble sounds like he might be trying to pass out a joke. However, I will try to answer his question and help him find the trouble.

Take the first train of gears and figure out the draft between the back roll and second roll. Then take the second and third roll and find (Continued on Page 33)



**PERKINS
HOLYOKE**

Calenders

Rolling
Friction
Schreiner
Chasing

Mangles

Water and Starch

Embossing Machines

*Perkins 3-Roll Friction Calender
Dead-Set Pressure*

This Perkins' 3-Roll Friction Calender is typical of the Perkins' line. A machine that is equipped for speed and hard service.

There is a Perkins' Calender to meet your own manufacturing requirements. These machines have long service built into them. Let us know your requirements and we shall be glad to furnish you with complete specifications and blueprints of Perkins' Calenders, Mangles or Embossing Machines promptly.

B. F. Perkins & Son, Inc., Holyoke, Mass.
Southern Representative: Fred H. White, Independence Bldg., Charlotte, N. C.



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CALENDERS - DRYING MACHINES - DYEING MACHINES - FINISHING MACHINES FOR SILK
JIGGS - STARCH, WATER, AND TOMMY DODD MANGLES - PADDERS - RANGES - SCUTCHERS
SINGERS - SQUEEZERS - TENTERS - WASHERS - WINDERS

Gastonia's Textile Industry

IN an address before the Rotary Club of Gastonia, N. C., J. H. Separk, well known mill executive of that city, gave some very interesting information relative to the textile industry in Gastonia, the combed yarn center of the South. Mr. Separk, in part said:

So far as I know the general subject of Gastonia textiles has not been fully discussed before the Rotary Club, notwithstanding the fact that we have had a number of shop talks. Without doubt the entire business life of Gastonia depends upon textiles, for while we have certain other industries, textiles furnish the main support. I have an idea that few of our citizenship realize the immensity of the figures involved, and it is for this reason that I have decided to present certain features of this industry at this hour.

There are, within the city and immediate suburbs, forty-two plants with a spindleage of around five hundred and ninety thousand spindles. No mention is to be made specifically of the weaving end as we are concerned at the hour with the production of yarns only. These forty-two plants handle in the run of a twelve-month in cotton from one hundred and forty to one hundred and fifty thousand bales, practically all of which is staple cotton. Out of this cotton is produced in yarns from forty-eight to fifty million pounds annually. Some idea may be gained as to the immensity of this poundage in cotton yarn when it is considered that it requires around four thousand cars annually to handle the incoming cotton, and an additional five thousand cars to handle the outgoing product and by product, making a total of nine thousand cars annually to handle the raw cotton and the outcome.

Another interesting set of figures would be the value of the cotton taken in by the forty-two plants under review. At the cotton markets as of today, adding the basis for staples, this cotton would stand somewhere between eighteen and twenty-one million dollars, possibly around twenty million.

Another set of interesting figures would be an estimate on the basis of the value of output, but this will not be considered at the time.

To get another angle on the high figures of a hundred and forty to a hundred and fifty thousand bales of cotton used annually, it figures out that if this cotton in bales should be laid end to end the distance reached would be three thousand, eight hundred, and thirty-five miles. It will, therefore, be of interest to know that this mileage would carry a line of bales all the way from Gastonia to New York City, across the Atlantic, to the British Isles, completely cross these isles, and extend far beyond. If one would conceive of the size of this mass of cotton in bulk, an idea might be formed if we could conceive of a mass of cotton in cubic feet three million, three hundred and seventy five thousand.

Assuming that we should extract the waste from this total poundage

of cotton, produce yarn and therefrom produce a standard cloth thirty-six inches wide and weighing five yards to the pound, it would be seen that there would be produced something over two hundred and fifty million yards of cloth, or in terms of miles, one hundred and forty-two thousand and forty-five miles of cloth. This would furnish a cloth length sufficient to reach five and seven tenths times around the world.

Still another way of getting at an idea of the real meaning of the immensity of this city industry—let us consider it in terms of the conversion of cotton used into hosiery yarns and then into socks. It will be found that there will be sufficient to produce for hundred million pairs of socks—enough, indeed, for every man and woman in the Chinese Empire.

If time permitted it would be a matter of exceeding interest to trace the development of the product of the mills within this locality for the past, say, third of a century. It is well known to us all that at the beginning and for quite some time thereafter the principal output was in yarns of coarse construction, gradually working up to a period about twenty-five years back when we had come to the production of what was then considered fine counts but now would be regarded as only medium counts. We have gradually worked upwards in count construction until we, today, perhaps have more spindles on fine yarns than any other city in the Southland. The product now turned out from these various mills runs all the way from certain of the coarser counts and medium counts through the very highest counts, and medium counts through the very highest counts, even up to 120s.

Distribution of this product also furnishes an angle of interest. I should say that the bulk of the product of our spinning plants go to four classes—mercerizers, knitters, hosiery manufacturers and weavers, with no small part of the weaving finding its way into tire fabric. While perhaps the bulk of the output finds its final handling in cotton fabrics, still, no small part today is finding itself in silk and near-silk constructions. So great is the ramification of this industry that it would be difficult to enumerate the channels into which our product goes.

While those of us who are directly interested and those who are indirectly interested in textiles find gratification in the development of things, we all are free to admit that there is much need of diversity of industries in Gastonia, and many of us long to see the coming of certain affiliated industries and certain other industries which are not affiliated with textiles.

Texas Mill Men to Meet.

Fort Worth, Texas.—The annual meeting of the Aexas Cotton Manufacturers' Association will be held in Fort Worth, Sept. 29, says an

announcement of C. R. Miller, president of the association. Representatives from all cotton goods manufacturers in the State are expected to attend.

Other officers of the organization are Walter Hogg, Dallas, first vice-president; J. Perry Burrus, Dallas, second vice-president; W. I. Steele, West, secretary, and R. B. Kennedy, Waxahachie, assistant secretary.

Steady Cotton Helps Market

Our sales for the week show very satisfactory results, being the largest in three weeks, reports on of the large commission houses. Total sales were 38 per cent in excess of total weekly production. Each of the principal groups was in excess of production, as follows:

	Per cent
Colored goods by.....	38
Sheets and pillow cases by....	16
Fine and fancy goods	46
Grey goods by	40

Denims were advanced sharply during the week and sales at the new prices were very large, so that within a short time available production will be sold up to the end of the year. Outings, tickings, chambrays, and the cheaper gingham all sold well. Several large sales of print cloths were made for October-November delivery. Twills continue to be in better demand than earlier in the summer. Tobacco cloths and gauzes were in good demand.

The wildness of the cotton market recently has been a decided handicap to the cloth market. There is more complaint of the recent wide swings in the market, first in one direction, and then in the other, than there is of the current price level. On those days when cotton has shown a reasonable degree of steadiness, it has been possible to sell goods freely on a basis that has been satisfactory to the mills, but with many buyers, the gyrations of the cotton market within itself and not its price level, have led to further postponement of buying in a market where nearby deliveries are already none too plentiful.

While print cloth prices have declined $\frac{1}{4}$ c to $\frac{3}{4}$ c, drills and sheetings $\frac{1}{4}$ c, we would call attention to the fact that these declines are not as great as those that have taken place in raw cotton in the meantime.

Clear, hot weather throughout the Middle West, has improved the corn outlook this month and the present outlook for satisfactory results to the farmer from his 1927 crops is one of the most important factors in creating confidence for good business during the next six months. The automobile industry has been marking time awaiting the new Ford models. While iron and steel corporations still remain at the low summer level, expectation of large orders for steel rails gives promise in the steel industry. Pigiron prices are at the lowest for a decade. The Northwest and the South in particular, furnish much better trade reports than a year ago. Taken as a whole, there is every reason to look for continuation of good business through the balance of the year.

DuPont Rayon Exhibit

An interesting feature of the rayon display held at the DuPont Products Exhibit at Atlantic City, during Pageant Week, was the fact that the establishment was crowded at each of the daily showings. The exhibit accommodated approximately 650 people. Many more people were turned away each day. The exhibit developed great interest in rayon. After each gown was presented by the models, a description of it and a discussion of the rayon material of which it was made, was given by Mrs. Mai Tewkesbury, a demonstrator who has had wide experience in such shows, having conducted them in Paris and London and also in the United States.

The afternoon and evening gowns made of the fashionable transparent rayon velvet, attracted the most attention because of its draping qualities and unusual sheen. There were also shown raincoats of Fairfield fabric by the Harris Raincoat Company and sport and dress coats of Fairfield fabric by Max Hyman and Son, Inc., the display featured garments and materials of twenty-nine exhibitors including besides those already mentioned, the following: J. M. Silverman, S. Heil & Sons, Philip Shlansky & Co., Jacob Reich, Inc., Goodman & Theise, Inc., and the Tower Dress Company, all of New York City, who displayed gowns; the McLoughlin Textile Corporation, of Utica, N. Y., underwear; the Davies Hosiery Company, the Weinarth Knitting and Machine Co., the Meinig Hosiery Company, of Reading, Pa., and William F. Taubel, Inc., of Riverside, N. J., hosiery.

N. C. Power Output Up 17%

Raleigh, N. C.—Electrical output from North Carolina generating plants in 1926 amounted to 1,730,861,570 kilowatt hours, an increase of 17 per cent over the previous year, according to figures compiled by the water resources division of the Department of Conservation and Development.

This increase was the greatest in percentage of any Southern State, with the exception of Alabama, says Thorndyke Saville, chief hydraulic engineer of the department.

The total output from water power only in 1926, amounting to 1,025,778,570 kilowatt hours, is an increase of 11.7 per cent more than the figures of the department, but has not reached the maximum figure of 1,243,798,240 kilowatt hours of 1924.

"This is due," explains Mr. Saville, "to continuing dry conditions during the fall of 1926 and the incomplete recovery from the extraordinary drouth of 1925. The output from water power for 1927 will undoubtedly exceed that for 1924."

In 1926, 57.9 per cent of the total power produced in North Carolina was generated by hydro-electric plants, while in 1925, 61.1 per cent of the total output was from hydro plants.

December was the peak month in production of power, 192,198,070 kilowatt hours being reported for the month; March came second with 154,954,240.

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THE surface of Celanese brand yarn is exquisitely smooth, and it remains smooth no matter how often the fabric is washed, no matter how long it is worn.

Water will not harm Celanese brand yarn, since it is not absorbed. Perspiration, too, is repelled and cannot rot or roughen the fibers.

Celanese brand fabrics are thus especially valued for garments worn next to the skin. They never grow fuzzy and they cannot chafe.

Celanese brand yarn is highly elastic and remarkably durable; and it has unique hygienic qualities. The dyestuffs used for dyeing Celanese brand fabrics give colors that are unusually fast to sun, suds, salt-water and perspiration.

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Floor Coverings Antedate Beginning of History

(Spartanburg Herald)

THE idea of floor coverings antedates the beginning of history. No doubt the first incentive to their use was the desire for warmth and protection from the harshness of Mother Earth. Probably skins taken from the slaughtered beasts of the forest or of domestic animals, which we are told formed man's first clothing after the fig-leaf, thrown carelessly on the ground, would suggest the thought as the bare feet of our ancestors came in contact with them.

When primitive man, returning wearied and heated from the chase, threw the furry pelts of his quarry upon the earthen floor of his rude habitation, you can imagine the sense of comfort and relief to his tired bruised feet, as they sank into the soft, warm fur, and he first experienced that sensation which we call luxury.

It was an easy transition, when the genius of man had reached the Textile Age, to lay a heavy piece of woven fabric on the ground to take the place of the more primitive pelts. Doubtless the hair or wool attached to the skin rugs suggested to the embryo weaver the idea of finishing the flat weave with a tufted surface. Tying on to the warp threads loose tufts of yarn

between the alternate weft threads he produced a fair imitation of the furry surface of the animal pelt. These tufts being different in color—some white, some gray, some black—would, when tied in, give to the finished rug a somewhat mottled effect. We can imagine that some nomad of native artistic temperament would conceive the idea of arranging these tufts in groups to resemble the markings on his now familiar fur rugs. Later would come the suggestion of patterns, crude attempts to represent in outlines familiar objects and animal forms. These are seen in most Oriental rugs today. In some sections they are very crude and in others they have reached a high degree of artistic finish.

The natural colors of the wool, however, were very few, and he soon tired of the limitations imposed upon his growing ideas. A blood mark would suggest red, the sky its restful blue, the trees and grass green, the colors of the sunrise and sunset a wonderful variety of shadings. His imitative faculties prompted experiments with the stains produced by various vegetable products in tree and shrub in wood, and leaf and berry and root. He developed wonderful skill in preparing dyes of unfading qualities which would withstand the exposure

of sun and rain and rough usage, and as he grew more expert in combining colors and designs, he evolved the wonderful production of Oriental weavery that is today the marvel of the world and the basis of all our textile art.

The long tufts on the rugs as originally produced would soon prove objectionable because of their tendency to hold the dirt which, in nomadic camps, is an ever present evil. The long end becoming caked with mud would make the rug heavy and unwieldy and defeat the object of its creator—softness and comfort. As the long ends would break or wear off, he found the short tufts remaining were still soft and pleasant to the touch and he conceived a closely woven short pile which was more sanitary and more easily handled. This gave a larger field for more elaborate and artistic designs, and we find in the Kerman-shah, Saruk and other Persian weaves the result of this later development.

The great cradle of the human race—the region bounded by the Caspian Sea and the Persian Gulf, the Mediterranean and the Granges—was doubtless the birthplace of the concept that brought weaving into existence.

For centuries the world was willing to leave the art in the hands of

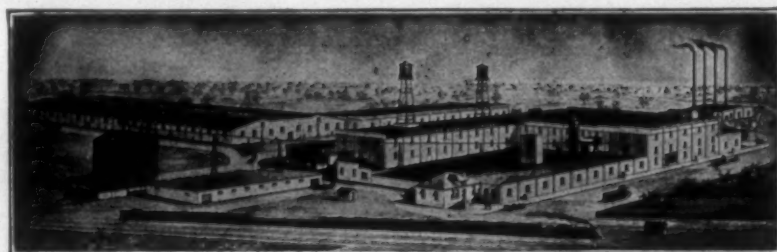
its creators, while the results of their work were carried far and wide to decorate the palaces of kings and the mansions of the wealthy. As mankind moved westward, Greece and Rome, Gaul and Britain, successively levied tribute upon the products of the Orient in the growing desire for the softer and more resplendent luxuries of power and wealth. But despite all the beauty, warmth and romance of the Oriental rugs, they are not the most desirable under certain circumstances, and the high cost of good quality Orientals is a real deterrent.

Rugs and carpets made in the United States then become of primary importance in the economy of our home life, and such is our standard of living and cultural advancement that floor coverings are no longer a luxury, but an absolute necessity to our health, comfort and happiness. Of the many types, one stands out pre-eminently as a diamond among these rugs and carpets—the regal Wilton.

Here is an ideal fabric clear-cut in design, harmonious in coloring, sturdy in construction, resistant to wear, reasonable in price, and combining luxury with economy over a long period of time.

To make Wiltons successfully is (Continued on Page 32)

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If you feel that vulcanized head spools are too expensive, try these. The cost is less than U S Vulcanized Fibre Head Spools, but more than Boynton Shield Spools.

In some respects these spools equal fibre head spools. For instance, there are no edge slivers to injure operatives' hands or break down ends.

An added advantage is that they have the same dimensions and thickness of heads as your regular spools, requiring no adjustment of traverse motion.

The only reason we stopped making these spools some years ago is that just previous to the war it became impossible to obtain the proper material for binding the heads. It wasn't because of any trouble with the spools—25 years in service and still going strong proves that.

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Government Advice

THERE has been an awful row about the cotton price statement recently issued from Washington, and it was an outrageous performance, but in spite of its serious effects, it was one of the funniest things that has happened in public life in many a day.

Some little fellow who in all probability could not make a living in the business world, had used the political influence of his friends to secure a job in multitude of unnecessary bureaus at Washington.

In all probability it made no difference to him whether he got a job with the Child Labor Bureau, the Maternity Bureau or Bureau of Agricultural Economics, and doubtless he was equally qualified or unqualified for each, but he happened to land in the Bureau of Agricultural Economics.

Having landed a Government job where, it is often the case neither brains nor ability are necessary, he doubtless proceeded to swell up and came to regard himself very highly.

When the price of cotton advanced in August to about 19 cents, he issued a statement that it was likely to decline.

Possibly he was only using his imagination, possibly he was short of the cotton market, possibly he was influenced by men who wanted lower cotton and were of his political faith, or possibly he was unduly influenced by a certain cotton market expert (?) who was bullish on cotton last season all the way down from 20 cents to 12 cents but who turned bearish at the bottom and all the way from 12 cents to 23 cents has done his best to keep his clients from buying cotton.

In any event an old adage, "Fools

rush in where angels fear to tread," has been again proved.

When the market broke the Bureau of Agricultural Economics first denied that they had made any such statement and then tried to claim that it was an extract from an old statement, but Secretary Hester produced the following telegram that had just been sent to him:

"As was indicated in last month's report should the present estimate of production be realized and past relationships between supply and prices prevail, it is likely that prices will decline within the next four months."

This shows that in September they reiterated their statement made in August when the market was three cents lower.

If they keep on making this statement every month it will eventually prove to be true, for from some point cotton will decline.

In their weekly cotton letter Harris, Irby & Vose say:

"No nation or group of nations and much less any bureau of any department can say what the price of a commodity shall be, much less can they say what the relationship between supply and consumption shall be. Demand of the ultimate consumer determines that, and it would seem advisable for government to pursue a policy of non-interference; a policy which up to this instance has seemed to predominate.

"We criticize the soviet for interference with the natural operations of the law of supply and demand. Here we find a department in a mild way expounding socialistic doctrine."

In their cotton market letter Williams & Travers say:

"The gross impropriety of this intrusion of a department of the Government upon a field in which it is entirely lacking in competence is self-evident, but the assumed authoritative character of the utterance has given it a momentary influence upon many minds in the trade which they would never

dream of attaching to market opinions from infinitely more valuable sources. It can only be said of the episode that it is unfortunate to the last degree, since it has inflicted heavy and undeserved losses in many directions, especially upon the hard-pressed cotton producers in the South; but that in the long run its effect upon the course of prices will be to cause them to advance to higher levels than otherwise would have been reached, since the present decline has delayed the necessary curtailment of consumption which the existing and prospective supply situation renders unavoidable."

In considering this report and the fact that it broke the cotton market \$6.50 per bale, our memory goes back to the fact that some years ago it was discovered that big New York speculators had been able to "buy" Government employees and had profited to the extent of millions by getting crop reports ten minutes in advance of the time they were made public.

There is no proof that the issuance of this report was "influenced," but some men profited to a very great extent by reason of same and an investigation might not be amiss.

Literature for Buyers

THE Association of Cotton Textile Merchants of New York has gone to the expense of printing and distributing a pamphlet, "The World Outlook for American Cotton," and we are wondering why they did so at this particular time.

Professor Todd's pamphlet was evidently written for the purpose of saying to the South that if you charge 25 cents for your cotton other countries will raise it.

The British Cotton Growing Association has never been able to raise any cotton in any new field at anywhere near 25 cents per pound, and we would estimate their average cost up to the present at over \$1.00 per pound.

Almost any county in Texas could increase its cotton crop in one year more than the entire increased production of the British Cotton Growing Association, and the chief objective of that organization seems to be to try to scare the Southern farmers into accepting lower prices.

Another purpose of Prof. Todd's pamphlet seems to be to raise a question relative to the accuracy of Secretary Hester's figures relative to the consumption of American cotton 1926-27 and to substitute therefor the International Federation figures of 15,777,000 bales.

During the period of eight years from August 1, 1919, to August 1, 1927, the total supply of American lint cotton, according to the United States Census Bureau, was 108,672,092 bales, while the total world's mill consumption shown by the Federation was 98,651,000 bales, or 10,021,000 bales less than the supply. The quantity of American lint cotton in existence on August 1, 1927, can not by any possible arithmetic be put at over 7,560,000 bales, while all the statistical probabilities are in favor of its not reaching 7,000,000 bales. In other words, the Federation's annual consumption figure has averaged fully 400,000 bales too low for the entire period of eight years. There are excellent reasons for believing that it is from 500,000 to

600,000 bales too low for the year 1926-1927.

Prof. Todd's pamphlet gave the buyers of cotton goods concrete arguments against paying prices for cotton goods based upon current prices of cotton.

Has the point been reached that the cotton mill men and commission merchants found it difficult to convince buyers of cotton goods that they should not pay advanced prices, and as an aid to their efforts decided to print Prof. Todd's arguments and send them to buyers to read at their leisure?

In no other industry in the world are such strenuous efforts made to keep buyers from having confidence in values.

We do not want to see cotton prices above 25 cents, but it seems to us that if we were selling cotton goods for ourselves or our clients we would do our best to convince buyers that higher prices were both probable and justified.

When they start printing the argument for buyers the limit has about been reached.

We have frequently praised the Association of Cotton Textile Merchants for the splendid service they rendered in collecting and compiling statistics, and we are much surprised at their action in distributing Prof. Todd's pamphlet.

Geo. W. Pritchett

IT is with deep and sincere regret that the textile industry of the South will learn of the death of Geo. W. Pritchett, Southern representative of the Morse Chain Company.

The editor of this journal had known him for twenty-five years and valued his friendship for its sincerity.

George Pritchett had an unusually keen mind and a rare sense of humor. A number of our editorials, including several that attracted unusual attention, came as the result of observations and comments made by him after contacts or experiences with mill men.

He was a man of high character, lived a clean life, and those who knew him valued highly his friendship.

Girl's Age Reported Wrong

WE recently commented upon a newspaper report account of a criminal assault on a girl in one of the mill villages. The report stated that she was 13 years of age and a "well known employee of the mills." It said further that "the girl had been to lunch and was on her way back to the mill."

We stated at the time that all Southern States prohibit the employment of children under 14 years of age, and if the facts were correctly given the mill should be indicted.

Since then we have learned that the girl in question has never been employed in the mill. She is not only under the age limit, but is mentally incompetent of employment, and has never worked. She was on her way to the mill to carry her father's dinner when the attack occurred.

Personal News

F. E. Boykin will be president of the new company that will erect a mill at Commerce, Ga.

P. L. Schaefer has been elected secretary of the company that will build a new mill at Commerce, Ga.

D. C. Cook has been elected treasurer of the company that will build a new mill at Commerce, Ga.

W. J. Ward has become overseer of No. 2 carding at the Bibb Manufacturing Company, Macon, Ga.

Charles Mount has accepted a position with Montala Manufacturing Company, Montgomery, Ala.

J. I. Painter, who was overseer of spinning at Goldville, S. C., for 15 years, is now located at Newberry, S. C.

John H. Cranford has been promoted from night second hand to day second hand in carding at Monarch Mill No. 1, Lockhart, S. C.

H. N. Pirkle, who has been overhauling at Egan, Ga., has become assistant overseer of spinning at the Jefferson Mills, Jefferson, Ga.

J. F. Weir has resigned his position with the No. 3 mills of the New England-Southern Mills, Tucapau, S. C., to become overseer of carding at the Jackson Mills, Welford, S. C.

Geo. H. Parker has resigned as overseer of spinning at the Bibb Manufacturing Company No. 1, Macon, Ga., and returned to his former position at the Thomaston, Ga.

Jake Harmon has resigned as second hand in spinning at the Dilling Mills Kings Mountain, N. C., and is now with the Phoenix Mills, of the same place.

Will Wilkes has been transferred from the Bibb Manufacturing Company No. 2, Macon, Ga., to card grinder at the Crown plant of the same company.

W. M. Boger has resigned his position at the Cannon Manufacturing Company, Kannapolis, N. C., to become second hand at the Marsh Mills, Salisbury, N. C.

J. B. Duval, who recently resigned as assistant treasurer of the Brookford Mills, Brookford, N. C., has been elected treasurer of the Hickory Spinning Company, Hickory, N. C.

Allen Layfield has been promoted from second hand in spinning at the Star plant to overseer of spinning at the No. 2 plant of the Bibb Manufacturing Company, Macon, Ga.

J. D. Moats has been promoted from section man to second hand in spinning at the Star plant of the Bibb Manufacturing Company, Macon, Ga.

J. N. Badger, formerly superintendent of the Appleton Mills, Anderson, S. C., has become overseer of weaving at the Sibley Manufacturing Company, Augusta, Ga.

W. E. Crocker has resigned as night overseer of carding at the Harmony Grove Mills, Commerce, Ga., to become assistant overseer of carding at the Jefferson Mills, Jefferson, Ga.

W. C. Watkins has resigned as overseer of spinning at the Spencer Mountain Mills, Gastonia, N. C., to become night overseer of spinning at the Mercury Mills, North Charlotte, N. C.

T. V. Hughey has resigned as overseer of night weaving at the McComb Mills, McComb, Miss., to become overseer of night weaving at the Cotton Mill Products Company No. 1 and No. 2, Natchez, Miss.

J. B. Parker has been transferred from night superintendent of the Bibb Manufacturing Co., Columbus, Ga., to the general superintendent's office at Macon, where he will be efficiency expert for all the Bibb plants.

J. L. Woodward, who has been assistant carder at the Monarch Mills No. 1, Lockhart, S. C., has accepted the position of overseer of carding at the new No. 3 plant of the New England-Southern Mills, Tucapau, S. C.

E. M. Monsell has been elected president of the Sand Springs Cotton Mills, Sand Springs, Okla., a new company having taken over the mill which has been operated by the C. R. Miller Manufacturing Company, of Texas.

George W. Pritchett

George W. Pritchett, Southern representative of the Morse Chain Company, with headquarters in Charlotte, died suddenly last Thursday night at his home in Charlotte. Mr. Pritchett had been in declining health for a year or more, but was recently thought to be considerably improved and his death came as a distinct shock to his friends.

Mr. Pritchett was one of the best known machinery men in the Southern territory. He had been connected with the Morse Chain Company for many years and playing a leading part in the introduction of chain drives in Southern textile plants. He was considered an authority on textile drives and had been very successful in steadily increasing the business of his company. His pleasing personality and genial manner made him one of the most popular men in the textile field and he will be greatly missed by a large number of his friends who will learn with much regret of his passing.

Mr. Pritchett was 58 years of age and is survived by his widow, two sons and one daughter. One son, Frank A. Pritchett has been associated with his father's business for some time.

Funeral services were held in Greensboro on Saturday, Mr. Pritchett being a former resident of that city.

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MILL NEWS ITEMS OF INTEREST

Saxaphaw, N. C.—The Sellars Manufacturing Company, recently incorporated here, is expected to take over and operate the Saxaphaw Cotton Mills. The latter plant was purchased by R. O. Sellars, of Burlington, and associates, at a recent receivership sale. It is understood the plant is to be improved and put in operation as soon as possible.

Goldsboro, N. C.—Work of installing the machinery for the new silk and the winding of the silk yarn is mill, the Goldsboro Artistic Narrow Webb Company, has been completed expected to be started this week.

E. A. Zecha, the manager, plans to make the first shipment of the finished product by October 1, and he states that he has a number of inquiries for samples and prices.

Calhoun, Ga.—The capital stock of the Calhoun Cotton Mills will be raised from \$100,000 to \$150,000, according to a document filed in the probate office here. The directors of the corporation recently held a meeting and decided to raise the capital stock. Fifteen thousand dollars' worth of class A stock, and \$35,000 worth of class B stock will be sold. A. F. Campbell is president of the corporation; H. L. Weathers is secretary; and J. M. Eatham is the third stockholder.

Hickory, N. C.—The plant of the Delmatia Silk Company will be moved from Delmatia, Pa., provided that \$100,000 in stock is sold to stockholders here. A like amount in machinery and equipment will be furnished by the present company.

Definite arrangements for selling the stock in Hickory has been made by the Chamber of Commerce here, the coming week having been set aside for the campaign.

The proposed plant will employ 200 persons with a weekly payroll of \$3,000, and will manufacture silk yarn.

Anderson, S. C.—The Gossett Dyeing and Finishing Company, is now nearing completion and will be ready for operation around October 15, it was announced by E. P. Coffield, general manager.

Machinery is now being installed in the building which, however, is not yet finished. The plant, which is located alongside the Gossett group of mills, Riverside, Toxaway and Ladlassie, is 143 by 159 feet in dimension and one story high. Together with the equipment it will represent a cost of about \$150,000 and will give employment to around 35 persons. Seventeen employees houses have recently been constructed to house the additional help which will be needed. Goods made in all of the Gossett mills will be finished in the plant, while it is possible that finishing work will be done for other plants, also but this point has not been definitely decided.

Mount Airy, N. C.—The Argonne Hosiery Mills have been incorporated by S. D. Arrowood, W. F. Doyle, of New York and T. L. Mattack, of Winston-Salem.

Jacksonville, Fla.—The Troy Cotton and Woolen Corporation, has been incorporated here by J. Darey, E. B. Sypely and B. H. Hamilton, the authorized capital stock being \$5,000,000. It is understood that the company plans to establish a cotton and woolen manufacturing plant at Hamilton City, near Callahan and that the equipment is to be moved from Fall River, Mass.

Atmore, Ala.—Leon C. Brooks and the Chamber of Commerce have plans under way for securing the removal of a cotton mill from one of the New England States.

Troy, N. C.—E. O. Anderson, J. L. Staten and associates, of Charlotte, who recently purchased the Rhyne-Anderson Cotton Mills at receivers' sale, have reorganized the company as the Troy Cotton Mills. It is understood that the new company will operate the plant under the management of Milton Ensor, who was manager of the Rhyne-Anderson Mills.

Charlotte, N. C.—The Industrial Dyeing Corp., of North Carolina, a branch of the New York company of the same name, expects to have its new dyeing plant in operation here by November 1. The building, now under construction, as recently noted, will have 12,000 square feet of floor space.

Louis L. Wisner, president of the company and Karl Ginter, vice-president will move to Charlotte to have charge of the plant. The company recently purchased the Dexter Rayon Corp., of Pawtucket, R. I., which will be operated in conjunction with the New York and Charlotte plants.

Greenville, S. C.—Incorporation of the Slater Manufacturing Company, owners and future operators of the mill now being constructed at Marietta, has been announced by W. G. Sirrine, attorney of Greenville. A charter will be applied for under the laws of the State of South Carolina.

The Slater Manufacturing Company will be incorporated with a capital stock of \$1,000,000, divided into 10,000 shares. The officers will be H. Nelson Slater, president; John Forster Dulles, vice-president; George A. Hilton, secretary and treasurer. The three are also on the board of directors.

The plant is now being pushed to completion and will be finished by the last of the year, it is expected.

Ellenboro, N. C.—Details of plans for more than doubling the capacity of its plant were announced by directors of the Ellenboro Manufacturing Company, of Ellenboro, near here, construction of additional buildings to start within a few days.

The main new building under the expansion plan will adjoin the present mill plant on the southern side and will cover a ground space of 200 by 75 feet, adding about 40 looms and 2,500 spindles. There are at present 30 looms and 2,500 spindles at the plant.

The new building will contain a slasher and finishing room, and additions will mean the construction of 30 more houses to accommodate 75 or more workers.

Greensboro, N. C.—J. R. Owens was awarded the general building contract for the initial unit of the Southern Webbing Company, new manufacturing plant north of the city. The amount involved in construction of the first unit will exceed \$40,000, it was announced, and work will start at once. Seven other general contractors placed bids on the work.

Contract for installing elevator equipment was awarded to the Salem Foundry and Machine Company, of Salem, Va. Contracts for the heating, ventilation and wiring equipment will be awarded at a later date.

The initial unit will be constructed on the new 20-acre site obtained

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sometime ago by the Southern Webbing mills two miles north of the city on route No. 70. It will be two stories high, exclusive of basement, and will be of heavy mill construction in length and will have a width of 100 feet. The first unit will be 116 of 100 feet.

Several additional units are included in the program of the company, the completed outlay to occupy a ground area of more than 70,000 square feet. Plans were prepared by James M. Workman. With completion of the first unit, the Southern Webbing Mills will be transferred from the present location on Carolina street, it was announced.

Kinston, N. C.—Local business interests expect the Kinston Cotton Mills to be saved to the city following the recent purchase of the plant by C. C. Hudson, Greensboro financier. The plant, one of the largest in the section, will continue in operation pending confirmation of the court sale, at which Hudson bid approximately \$222,000 for the mills and surrounding dwellings owned by the bankrupt spinning company. Receivers have been in charge the past eight or nine months.

The assessed valuation of the properties acquired by Hudson is considerably greater than the purchase price. In normal times the mills employ several hundred operatives. The announcement that they will probably continue in operation is regarded as the best news of a business nature here in months.

Anderson, S. C.—An explosion in the "dust house" of the Appleton Mills caused considerable excitement and did some damage to the building and its contents. A small quantity of cloth was also damaged by water.

The dust house exploded and

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Wanted — Experienced salesman in lower South Carolina and Georgia, familiar with Rayon, skeins and the converted as well as cotton yarns. Best line on market. Commission basis. State line now selling with references. Box 844, Charlotte, N. C.

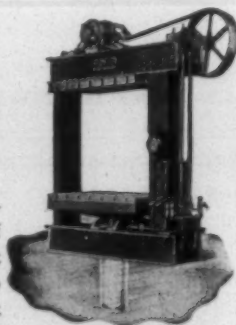
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tell you more about them.
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threw a column of dust and lint high into the air, and fire started immediately afterward. The fire alarm was sounded and the company's own fire department soon had the fire under control.

The dust house is a concentrating place for the fine lint which is taken from the cloth in the napping room. These fine particles of cloth

are gathered in the dust house by means of blower conveyors, and the house is cleaned out once a week of this accumulation.

The explosion was probably caused by a bit of metal being run through the machinery. The lint and dust is highly explosive and the smallest spark will set fire to the accumulation.

The Verdict is Unanimous
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H.P.C. WARP DRESSING
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Institute Meetings With Cotton Growers

A joint meeting was held in the office of the Cotton-Textile Institute, Inc., by representatives of the Cotton-Textile Institute and the American Cotton Growers Exchange.

C. O. Moser, president and general manager, and Messrs. U. B. Blalock, J. E. Conwell, C. G. Henry, S. L. Morley, A. Northington and J. T. Orr, from the Exchange, together with Walker D. Hines, president and Messrs. Robert Amory, John H. Holt, W. S. Pepperell, E. C. Dwelle, J. C. Evins and George S. Harris, from the Institute, were present.

A general discussion of matters in common between the growers and manufacturers took place. As a result of the meeting the two organizations will work in close co-operation in the development of new uses and the extension of existing markets for cotton and cotton products, and studies will be undertaken with a view to encouraging the elimination of wasteful methods and the growing of an adequate supply of better quality cotton.

It is anticipated that similar conferences will be held from time to time.

Tubize Prices on Fine Sized Yarns.

E. V. Peters, vice-president of the Tubize Artificial Silk Company of America, has announced prices of the new fine sized yarns which the company is now manufacturing as follows:

No. 35 denier, A quality, \$3.50; B quality, \$3.25 per pound. No. 50 denier, A quality, \$2.75; B quality, \$2.50 per pound.

Wanted

Overseer weaving for 460 looms on sheetings and drills. Prefer some good, reliable, energetic second hand; one that is willing to stay on the job and understands Draper looms, and checking up the cloth and making out his own payrolls. Don't apply unless you know you can run the job. Must be a good manager of help. Job pays \$6 per day, with second hand. Good house free of cost with water and sewerage. Send all applications with references to C. P. M., care Southern Textile Bulletin, Charlotte, N. C.

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World Cotton Consumption "Astonishing," Says Todd

In view of the record abundance of raw cotton during the last season, "the really astonishing feature in the situation thus created has been the capacity shown by the world to digest such a supply," states Professor John A. Todd, of Liverpool, England, in an analysis of "The World Outlook for American Cotton" just published by the Association of Cotton Textile Merchants of New York.

World consumption of American cotton during the year ended July 31st, as recently announced by the International Cotton Federation was 15,777,000 bales, or more than 2,000,000 bales greater than the consump-

tion during the preceding twelve months.

"The elasticity of demand has proved greater than any one could have anticipated," Professor Todd writes, "and the growth of consumption has more than kept pace with the increase of supplies.

"The world had not realized the extent of the arrears of potential consumption of cotton goods in the old world as well as the new; and on that point it must be remembered that, in the East especially, cotton consumption is to some extent capable of accumulation.

"In many parts of the East clothing is rather a luxury or a sign of prosperity than a real necessity, and in many Oriental countries the vast millions of the population buy new clothing only when they have special occasion and then when the occasion happens to coincide with a

period of prosperity and good purchasing power. Their total expenditure on such goods is rather a certain amount of money than a fixed quantity of goods. When prices are high they do without, and when prices fall their purchases increase almost in proportion.

"At the same time the abundance of the cotton supply came at a time when most of Europe was just emerging from the cloud of the post-war depression. In England the long period of organized short time which was first necessitated by the deflation period of 1920 and had then to be continued through the three years of short supplies, would have been brought to an end earlier in 1926, but for the coal strike; but that also passed just in time to let England take full advantage of the abundant supplies of that year.

"The question remains whether

this extraordinary power of absorbing cotton has been due to abnormal conditions or whether such an achievement could be repeated if the world's supply could repeat the enormous figure of 1926.

"It is, of course, certain that another crop of 18 million bales, if such were possible, either this year or in the near future, would not pass into consumption at anything like present prices (say 20 cents a pound) but on the other hand, in view of the experience of the past season there is no reason why even such a supply should permanently reduce prices to levels so low as during the early part of last season, say below 12 cents. That was largely due to the sudden change in the situation produced by early crop reports and the expectation that the crop would actually reach still higher figures.

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"It must be recalled that before the war the world's consumption had been steadily increasing, except when short supplies made it impossible, and there is no reason why the same should not become the normal course of events again in the future. England's consumption is still far behind pre-war but has recovered substantially since the end of the coal strike. The Continent last season probably exceeded pre-war consumption for the first time, but the United States and Asia have been for beyond pre-war figures for several years, and there is no reason why they should not continue consuming on that scale.

"Had there been no war the world's consumption of American cotton would by this time have exceeded 20 million bales annually, and a few years of steady supplies would soon bring us to that figure again.

"But it may be asked, can the world consume increasing quantities of American cotton when so many other countries, especially India, are increasing their local supplies? On that point it may be stated quite definitely that America has nothing to fear yet from all these other supplies. The most that they can do so far is to compensate partially the extreme vagaries of the American crop. Thus India has increased her total by almost 50 per cent from pre-war average figures, say to 6 million bales, and of this quite one-third is of $\frac{3}{8}$ -inch staple or above, and reasonably capable of substitution for the lower grades of American cotton.

"All of the other new sources of supply, especially in the British Empire, are still comparatively small in quantity and do little more than to fill in odd corners in the world's supplies, though in certain directions their good quality has enabled them to do that very usefully. But the future prospects of all these new cotton countries depend very largely on the price of American cotton."

Professor Todd made his analysis by request after completing a visit with friends and a series of lectures in Southern States and an address at the Institute of Politics at Williamstown, Mass. He is principal of the City School of Commerce, of Liverpool, and the author of several authoritative books based on his statistical studies of cotton.

Tulsa Group Takes C. R. Miller Mfg. Co.

Tulsa, Okla. — Announcement was made by William Holden, secretary of Tulsa Chamber of Commerce, that the C. R. Miller Manufacturing Company has retired as operators of the Sand Springs, Okla., Cotton Mill. The Sand Springs Home Interest, founded by the late Charles Page, multi-millionaire and Tulsa business men took over the mill. E. M. Monsell, one of the five trustees in the Home Interest, left in trust by Mr. Page, becomes president of the new mill company. Alf G. Heggem, president of the Tulsa Chamber of Commerce and of the Oil Well Improvement Company, becomes vice-president.

C. F. Tingley, of the Sand Springs

Home group, is to be secretary-treasurer. J. J. McGraw, president of the Exchange National Bank; William Holden, secretary of the Chamber of Commerce; W. G. Skelly, president of the Skelly Oil Co.; Fred W. Insull, president of the Public Service Co.; T. H. Steffens, chairman of the board of trustees of the Sand Springs Home Interest; H. B. Dowell, general manager of the mill; J. A. Bearden, of Depew, Okla., Mr. Monsell and Mr. Heggem become the directors.

These men have formed an operating partnership with the firm of Hesselin & Co., of New York city. The Hesselin Co. will have full charge of the mill output, marketing it exclusively. The trade name of the sheeting manufactured will be changed at once from "Queen Esther Brand" to "Commander." The trademark will be Commander Richard T. Byrd and his airplane.

Spindle Activity in August

The Census Bureau's report on cotton spinning for August showed: Active spindle hours for August totalled 8,973,455,525 or an average of 245 hours per spindle in place compared with 8,042,790,747 or an average of 2199 for July this year and 6,954,413,849 or an average of 184 for August last year.

Spinning spindles in place August 31 totalled 6,556,026 of which 32,239,245 were operated at some time during the month, compared with 36,728,086 and 32,311,802 in July this year and 37,822,040 and 31,269,774 in August last year.

The average number of spindles operated during August was 37,853,098 or at 103.5 per cent capacity on a single shift basis compared with 36,399,306 or at 99.1 per cent capacity in July this year and 30,464,534 or at 80.5 per cent capacity in August last year.

New Mill at Carrollton

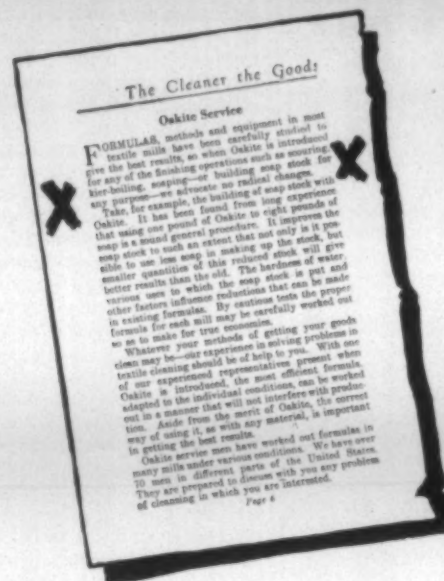
Carrollton, Ga. — According to local reports, a company has been formed and \$60,000 subscribed as capital stock to build a cotton factory at Carrollton. Machinery already has been purchased, it was stated, and operation of the plant is expected to start early next year.

The following officers were elected: B. F. Boekin, president; L. J. Brock, vice-president; P. L. Schaeffer, secretary, and G. C. Cook, treasurer.

Philippine Trade Smaller

Washington, D. C. — Imports of cotton piece goods into the Philippine Islands decreased during the first six months this year, as compared with the corresponding period of 1926, according to reports to the Textile Division of the Department of Commerce.

Philippine imports of cotton piece goods in the first half of the present year totaled 44,437,000 square yards, valued at \$7,143,939, compared with 53,858,000 square yards, valued at \$9,687,194, in the corresponding months of last year, a decrease of 17.5 per cent in quantity and 26.25 per cent in value.



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Industrial Cleaning Materials and Methods

Floor Coverings Antedate Beginning of History

(Continued from Page 24)

a true science, and a manufacturer must have skill of a high order born of long experience.

You will be interested in knowing a little about what goes into Wilton rugs and carpets and how they are made.

The great fact of Wilton is embraced in the Jacquard, that wonderful mechanism invented by Joseph Marie Jacquard, in 1801. The best of all fabrics showing a design such as fine carpets and upholstery are produced by this method, as the pattern is absolutely true, and stands out as clear-cut as a cameo.

But before we describe the working of this remarkable mechanism—which revolutionized the weaving of textile fabrics—we are going to tell you something of the materials of which a Wilton rug or carpet is made and the manufacturing process. We shall reach the Jacquard again in its proper place.

The matter of preparing wool for spinning yarn is somewhat on the order of preparing tea and tobacco for the market. Wools of various kinds and quantities are combined to make a blend suitable for spinning carpet yarn. Wools that serve the purpose for making clothing would be valueless in floor covering. The main requisite in carpet yarn is that it shall be strong and resilient. There are other necessary qualities more or less common to all wools, such as evenness, smoothness, etc.,

but the main thing is that it shall be of such construction that, when it is in the fabric, it will stand up against the tread of thousands of pairs of feet in a year. The sheep of the United States furnish a very fine, soft wool used for clothing, undergarments and all kinds of woolen goods, but carpets require strong, tough, wear-resisting yarns made from the wool grown on the sheep of wild, mountainous and cold countries. Wools necessary to give this come largely from China. Other localities contributing to this blend, but not to the same extent as China, are Scotland, East India, Arabia, Russia and Persia. This is stated broadly and the quantities and qualities vary according to whether the spinner is manufacturing wool or worsted yarn. Some wools are better adapted to spinning wool yarn on account of the shortness and coarseness of the fiber, while on the other hand, to spin worsted yarn, it is necessary that a wool with a long staple be used.

Up to a certain point, the method of making wool yarn which is coarse, heavy and with short staple, and worsted yarn which is fine, silky and with long staple, is the same.

The correct blend having been made, the whole mass is sent through the picker house where machines armed with sharp, heavy teeth, pick or tear the mass apart, and thoroughly mix it so that instead of the different grades in the blend being in masses, they are now thoroughly and evenly mixed through the whole mass. Having

made the blend and the wool having been thoroughly mixed so that it is a uniform mass, the process of spinning then begins. The mass is fed into a series of large cylinders armed with small, fine wire-like teeth. This machine is known as the carding machine. It tears the wool further apart into exceedingly fine fibers and when it comes from this operation it looks just like a filmy curtain of wool. This operation is repeated several times until all foreign matter is combed out and all the fibers are laid one way. After the last carding, this film is gathered together through a tube, and comes out in the form of a soft rope as thick as two of your fingers, known as roving. This by successive operations, is reduced in size and finally separated into strands. These are wound upon a large spool and brought to a machine called a mule. Each separate strand is drawn from the spool and attached to a spindle. The mule is so constructed that it thoroughly twists nine or ten feet of these strands at a time and then winds them on the spindles. These tubes of yarn are then taken and the yarn from two or three of them is twisted together to make two ply or three ply yarn as may be desired. The yarn is then reeled into skeins and is bundled, ready for dyeing and weaving into rugs and carpets.

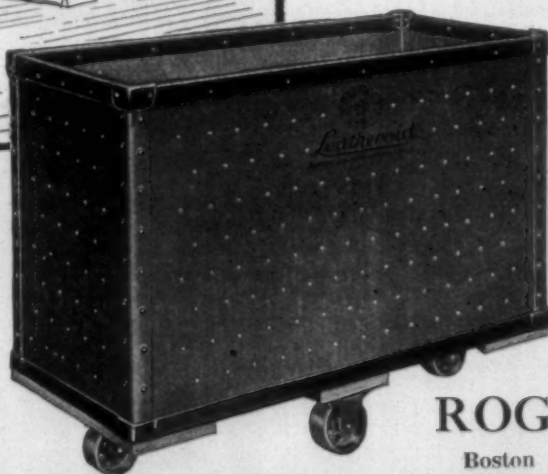
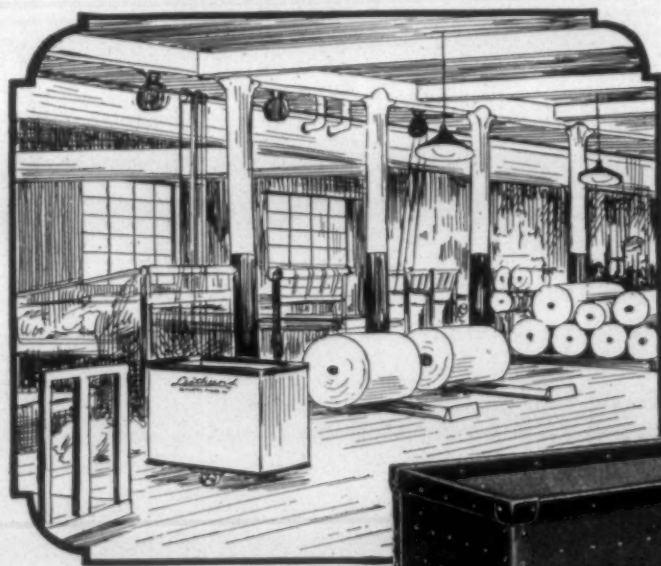
In spinning worsted yarn, the wool is put through carding machines as in the case of wool yarn, but after that the process is somewhat different. The wool after being carded goes to the coming ma-

chine. This consists of a series of metal combs arranged in a circle through which the yarn must pass. All the short stock is combed out and falls in the open space within the circle of combs. These short fibers are called noils. The long fiber stock which remains is called top. The top now goes to the drawing machine which consists of two sets of rollers, the front set running faster than the back set. Through this machine the top passes, the effect of the different speed rollers being to draw it out into a rope-like strand of fiber as thick as your thumb. This is called a sliver. From now on the process is the matter of drawing out the sliver into smaller and smaller strands, and at the same time, gradually putting the proper twist into make it stronger.

The process of gradually drawing this thick rope of worsted smaller and smaller bears a very close resemblance to the way wire is drawn smaller and smaller in a wire mill. The yarn is now fine enough to make into ply yarn, and it is redoubled, as the operation is called into two or three ply yarn as the case may be. All that now remains to do is to put it into skeins and bundle it. It is then ready to be dyed and woven.

Our wool or worsted having been thoroughly cleaned it is now ready for dyeing into one of the thousands of shades used.

All dyes used in the best Wilton rugs and carpets are subjected to extremely severe tests before the dyed yarn is allowed to be used in



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Solid substantial and lasting, because of a combination of material and construction which has been developed out of nearly half a century of receptacle building experience.

The name Leatheroid covers a complete line of all types of receptacles used in factories, mills, warehouses, etc., for transporting and storing raw materials, parts, cuttings, scraps and waste.

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the goods. The result is, not only beauty in the beginning, but beauty that endures.

Now our beautifully colored yarn is ready for weaving. After leaving the dye-house it was thoroughly dried and carefully put in bins ready to be drawn upon for winding on spools and going into the loom. But other processes have been under way before the loom could weave the yarn into a pattern. These are designing and card cutting.

The design is the original permanent record of a pattern. It is preserved with as much care as a deed to a piece of property.

Rug and carpet designing is both an art and a science. Creative imagination and the beauty of form and color must be expressed in accordance with certain rules or the pattern could not be woven in the loom.

Designs are carefully painted on paper ruled in small squares, necessary for the process of card cutting, and although in working out the designs the designers must follow these squares, they are so small that neither the outline nor the symmetry of a figure is marred by their use. In a design for a French Wilton rug there are over one hundred squares in less than a square inch, so it will be seen that each square is pretty small. In a square yard of French Wilton there are 165,132 of these squares and each one must be covered accurately by the brush of the designer. It may be imagined that the designing of a full 9x12 rug is a slow and costly process.

We have now reached the Jacquard process in its proper order. So far, except for magnitude of operations and more intelligent methods, we are somewhat in the position of the weaver of Oriental rugs. He has his colored yarn and he has his design. Both he and ourselves are prepared to weave a

work of art. But right here comes the difference. He, by patient application, will weave one beautiful rug. We shall weave, not one, but hundreds of rugs, equally beautiful and far less costly. How is this brought about? We will explain for the benefit of the non-technical reader and omitting unnecessary detail.

If a rug or carpet is composed of several thicknesses of yarn it is obvious that at any point where one of these is on the surface, the others must be concealed underneath. That is exactly what is brought about by the Jacquard. It causes colors to be raised or depressed to correspond to the design, thus forming the pattern in weaving.

Practical Discussions

(Continued from Page 20)

the draft between them, then the third and fourth rolls and proceed with the same train of gears and find the draft between them and add them together. Then take the train of gears between the fourth roll and the calender roll and add this to the draft. Count the teeth in each gear, disregarding all marks or numbers. If the rolls are metallic, measure all the collars with a micrometer and see if they check with the other frames. Also try out the can tables and check them together, check the bore of the trumpets and also the coiler gears.

If this fails I will go with him to S. Peter and help him hunt the trouble. Joe B.

Brass for Bushing.

Editor:

Is brass suitable for bushing a stud? If not, why?

Why does brass make a good bearing. Learner.



WILL STUDY FOREIGN MARKETS FOR AMERICAN TEXTILES

Left to right—Hiram T. Nones, August Brauer, Jr., and W. D. Mann, new textile trade commissioners of the Department of Commerce, with E. T. Pickard, chief of the textile division of the Department. The trunks contain samples of textiles from Worth Street and other American textile centers.

Mr. Nones and Mr. Mann sailed on the American Trader August 24th en route to Egypt and India. Mr. Brauer will go later to Singapore.

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Soap and Its Relation to Hard Water in Dyeing

(Continued from Page 14)

colloidal condition they cannot adhere to the fibre nor interfere with subsequent operations.

The chemical used for this treatment is common to every dyehouse, namely, a ten per cent olive soap solution. When a solution of soap is added to hard water, the soap and lime react to give a colloidal suspension of lime soap. If the soap solution is added in sufficient quantity to react with all the lime and still leave a slight excess, a dilute, stable emulsion results, which to all practical purposes, from the standpoint of rinsing and dyeing, is soft or zero water. The lime soap is kept so finely divided that it no longer has the sticky properties which it usually possesses and hence has no tendency to adhere to the fabrics.

When the pieces from the boil-off or from any soapy operation are entered into the water thus softened, no lime soaps are precipitated in or on the goods. The lime has been rendered inert by the previous treatment and cannot interfere. This is evidenced by the absence of the usual "cheesy precipitate" on the surface of the bath. The soap in the fibre is removed as efficiently as though rinsed in water of zero hardness. The alkalinity of this rinse is only that of a neutral soap solution and thus is harmless to the silk.

When dyeing is to be done with direct colors or with neutral dyeing acid colors it is not necessary to drop the second rinse water, but for economy it should be used as the dye liquor. This rinse should be softened with the soap solution as was done in the first, the goods run for several minutes, then the salt and color added. The presence of a small amount of soap in the direct dyebath or when neutral dyeing acid colors are used is beneficial from the standpoint of penetration and level dyeing.

When acid colors are used, the first and second rinses should be softened as described, but after the second rinse, a new water, unsoftened, should be used to make the dye liquor. Since up to the end of the second rinse no lime soap has been precipitate within the fibre, and the concentration of soap in the goods at this point is very slight, the amount of fatty acid liberated when the fabric is placed in the acid dyebath is so small that there is practically no danger from oil spots.

This method of preventing the precipitation and coagulation of lime soap largely eliminates troubles from soap spots, order, oil spots and harshness. It is not a mere experiment but a practical working method which has been applied with remarkable success in numerous plants including some operating under water conditions of as high as eight grains hardness.

The actual method of application is exceedingly simple. Before the pieces coming from the boil-off or any soaping operation are placed

into the rinse or wash water, this water is treated as follows:

Soap solution, made up one pound to a gallon, is added in sufficient quantity to interact with all the lime in the water. The amount needed depends, of course, upon the hardness of the water and upon the size of the box. The accompanying table indicates approximately how much is required, but it is not really necessary to refer to the table or to make calculations since it is easy to tell when enough soap is present. Add the soap solution, a bowl at a time, until a sample of the water taken in a small bottle retains a fairly permanent suds when shaken vigorously. The appearance of the bath will maintain a light foam on the surface. The former method is somewhat more accurate. When the amount of soap solution for any one box has been determined it can be noted and used in future procedure. The water conditions vary considerably during the course of the year so that it will be necessary to check up from time to time to make sure that sufficient soap is being added. The safest check is to watch the wash water and the dye liquor; the appearance of scum of cheesy matter floating on the top is a definite indication that the water is being incompletely softened.

Hosiery Dyeing.

When the process involves the handling of hosiery in a rotary washer or drum the application of this procedure is slightly different.

The goods after degumming in the drum remain there after the boil-off liquor has been dropped. Hence, when hard water is admitted as a rinse, precipitation of lime soap occurs upon the surface and between the cocoon filaments of the tram. The hosiery tram being of less twist than the silk in most piece-goods, liberates the flakes of lime soap somewhat more easily. Also, the hosiery receives a more efficient mechanical treatment and thus has somewhat less tendency to pick up the curds. Nevertheless considerable trouble arises in the dyeing and finishing of hosiery because of soap spots, so precaution should be taken for protection against hard water.

Table indicating the Amount of Soap Solution Required to Soften 100 Gallons of Hard Water.

(Soap solution to be made of one pound of olive bar soap per gallon of water)

Hardness of water in grain per gallon	Hardness in parts per million	Gallons of soap solution required exact	Gallons of soap solution required approximately
1	17	0.214	$\frac{1}{4}$
2	34	0.428	$\frac{1}{2}$
3	51	0.642	$\frac{3}{4}$
4	68	0.856	1
5	85	1.07	1 $\frac{1}{4}$
6	102	1.28	1 $\frac{1}{2}$
7	119	1.49	1 $\frac{3}{4}$
8	136	1.71	2
10	170	2.14	

Example

The amount of soap solution to soften three grain water in a box of 400 gallon capacity would be:

4×0.642 equals 2.568 or slightly more than 2 $\frac{1}{2}$ gallons.

The keynote of the colloidal method of protecting against lime as described in the foregoing, lies in the treatment of the hard water be-

(Continued on Page 42)

Six definite reasons why you should use

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5. Reduces seconds caused by loom stoppages.
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Care of Tatum, Pinkham & Greey
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New York City, N. Y.

Georgia Meeting

(Continued from Page 12)

break? That may be the source of the trouble. We may know it is breaking, but not know what is causing it to break.

Another answer is that the shuttle feeler cuts the filling too quickly, or cuts it when it first takes hold, and lets it run through, and keep on weaving, and the fork does not operate. That will give a shuttle mark.

Somebody give us another answer to that. I am afraid we are not getting as much out of this question as we should. We can't do anything with it unless fellows will get up and talk.

On the question of a loom making shuttle marks and keep running, tell us what you find causes those things.

MR. HUGHES: Anything, that will break the filling, is liable to make shuttle marks. The question does not say "What causes the filling to break?" The question is "What causes the loom to make shuttle marks and keep running?" Well, there are different things, that break the filling. The filling has got to break outside of the shuttle. Too much friction sometimes will cause a weak place in the filling coming through. Then you have got a shuttle mark.

We know, if a bobbin gets off of center, it will also break the filling; but the greatest thing I find, that gives me the most trouble, is that

in traveling you have to put your shuttle protector up very close to keep from making the bobbin break it, and, when the shuttle fails to co-operate, you have a very close margin on your thread cutter. Lots of times you will have what you call a false chain, and if the loom fails to change filling, it cuts your filling. I am speaking of the Draper looms. It is very close to keep it from closing that knife. When it clips it, it holds it off to one side, leaving the thread loose for about 12 or 14 inches. Then going back to the other end, you will find that most of the shuttle marks are anywhere from $\frac{1}{4}$ ths to $\frac{1}{2}$ th of an inch of where the bobbin changes. You will find it right close to where the bobbin does change. If you will examine that very carefully to see if the bobbin is all right, you may overcome this, for evidently that is one of the biggest causes I know of. That is one of the secrets.

MR. DENNIS: Let's hear from somebody else. I think we should get a lot of answers to this question as to these causes. You fellows are making my job pretty hard. I don't want to do all the talking. It makes it a whole lot harder where we don't get any responses to these questions. That's why I am insisting on your getting up and talking. It is your meeting. Get the most out of it. Think about me a little bit, and about how I feel, when I am trying to get somebody up to answer the questions being discussed. Let's hear from somebody else about this. I am sure we have not

covered all of the causes of this defect.

Does the lining of the box plate have anything to do with the break of the filling? Maybe somebody can tell us something about that? It is worn thin, or if the shuttle is worn thin, has that anything to do with it? (No response).

Well, we will pass on to the next question which is:

"What is a good rule for oiling looms?"

The first answer is "Oil when needed." (Laughter). That means a whole lot.

The next answer says in substance "We oil daily pick shaft bearings, cam bearings, auxiliary shaft boxes, harness cams, idle gear studs, treadle roll pins, etc. All other parts should be oiled twice each week."

The next answer says "Clean out all oil holes first. Oil fast-running parts daily; other parts three times a week."

Some of the answers refer to an oiling chart sent out by one of the loom manufacturers recently, which gives perhaps the most comprehensive idea of a schedule for oiling looms, that any of us have ever gotten at all. This schedule or oiling parts every day, certain parts every chart gives a plan for oiling certain two days, certain parts every three days, and certain parts once a week, as well as certain parts to be greased once a week, and certain parts to be oiled occasionally. I will read this

chart for the benefit of those, who might be interested:

Oil Every Day

Pick cams and balls
Pick shaft bearings
Crank arms
Crank shaft bearings
Rocker shaft boxes

Oil Every Two Days

Cam shaft bearings
Auxiliary shaft boxes
Harness cams
Idle gear stud
Treadle roll pins
Filling cams and followers
Protector rod bearings
Friction pulley parts

Oil Every Three Days

Shipper parts (if friction pulley)
Treadles
Shuttle feeler bushing
Other shuttle feeler parts
Oscillator cam follower
Other knock off parts
Take up roll bearings
Transferrer

Oil Once a Week

Loose pulley and shipper parts
Lay guide
Fork slides
Start. Rod bearings
Take-up parts
Spring shaft parts
Let off parts with beam and whip roll bearings
Harness roll bearings
Lacey top
W. S. M. parts (upper)
Parallel stud and spring
Bobbin disc and pawls
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Paralel tongue
Temple thread cutter.
Temple bar
Cutter spring and stud
Shuttle feelr cam path

Occasionally

Drop of oil on filling motion shipper bushing L. O. internal gear and pinion and path of nub of controlling lever link—grease, but do not get any on friction leathers.

Wooden harness sheaves — clean when warp is out and put grease on studs and between sheaves.

I think that is a pretty complete answer to the question, in so far as it applies to the looms that most of us have. Of course looms, with more than one box, this chart does not cover that mechanism. Perhaps somebody would like to ask a question in regard to some special mechanism not covered by this chart. That does not refer to any dobbie motion either.

JOHN K. KLINCK (Augusta): Has anybody tried this alemite system of greasing? (No response).

MR. DENNIS: Is there any other mechanism not covered by this chart, or any special mechanism of any kind, about which anyone would like to ask in regard to lubrication? I don't know how you fellows feel, but I wish more of the manufacturers would give us charts to oil by. I think it is a fine idea. I am sure that is my opinion, and I believe it is the sense of this meeting that we approve the idea of manufacturers making definite recommendations as to the necessity and the frequency of oiling the different parts of their machines.

If there are any of you, who would like to get copies of this chart, you will find it in "Cotton Chats" of the Draper Corporation, August, 1927, and they will be glad to furnish any of you, who writes for it, one or more copies of this chart. One superintendent, told me last night all over his weave room, so there he had posted copies of the chart would be no misunderstanding as to when this oiling is to be done, and they are following this chart to the letter. If any of you wish to get copies of this, write to the Draper Corporation, and they will be glad to furnish them to you.

Are there any other questions to come up in regard to the oiling of looms? If not, we will pass to the next question, which is:

"What advantages have you found in the weaving department by using warp tied with a weaver's knot instead of the regular knot? What difference in the quality of the work, loom stoppage, production, and so forth?"

Let's hear from somebody about that. A great many mills recently changed from the regular knot to the weaver's knot.

The first answer we have is "Great improvement. We find that the loom stoppage is not as great with warps tied with weaver's knot as with those tied with the regular knot."

The next one says "Smoother cloth; stoppage less; and production increased at least 2 per cent."

Will somebody give us some of their experience on that? Will somebody tell us how much their loom stoppage has decreased?

MR. DILLARD (Columbus): Our stoppage was decreased 8 per cent by using the weaver's knot.

MR. DENNIS: Somebody else? One answer here says "Fully 5 per cent loom stoppage was decreased."

Another case here says "We find as much as 15 per cent reduction in loom stoppage." I believe that is the highest we have found yet—15 per cent reduction.

Can somebody else give us their experience on that? If not, we have covered the questionnaire as it has been submitted.

J. W. HAMES (Atlanta): I would like to ask a question of the gentleman, whose stoppage was decreased 8 per cent, and also of the gentleman, whose loom stoppage decreased 15 per cent, if he is present. The question is if their production showed the same increase or showed any increase, as had been stated by another answer.

MR. DILLARD (Columbus): The way we work that is we have a very hard weave, that we run all of our tests on, and if different operations show up satisfactorily on that hard weave, we consider it as a standard to go by, and that's where we arrive at 8 per cent decrease in loom stoppage.

MR. STEELE: I never did take the absolute percentage of decrease of loom stoppage, but our production did increase by 3 per cent. That's actual.

MR. DENNIS: Somebody else?

MR. HUGHES: Are you able to give the weavers more work, more machines to run?

MR. DILLARD (Columbus): They are still running the same number of looms.

MR. DENNIS: This completes the questionnaire on weaving. We will take up after the luncheon any questions, that you submit to be discussed at that time.

The Luncheon.

The luncheon was served in the main dining room of the Henry Grady Hotel, and it was a very delightful luncheon, well served.

Afternoon Session.

The afternoon session was called to order at the luncheon tables in the main dining room by Frank S. Dennis, now General Chairman for the next year.

MR. DENNIS: I hope we will have more discussion than we had this morning. I hope we will respond a little more freely to any questions, that might be brought up.

It may be that the members did not have any special questions to submit. We have none submitted. If anybody has a question now he would like to ask, let's have it, so that we can go ahead with this part of the meeting. Will somebody ask a question?

There is one compound, that was discussed this morning, about which there is a device, that I think perhaps should be mentioned, but which was not mentioned by anybody on the floor, and that is what is known as the "Sizeometer," which

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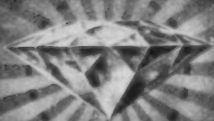
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is supposed to indicate the amount of moisture or that is the degree of regularity, with which the yarn comes from the slasher. As I understand it, it is a device, that has a clock hand, and it is divided off of course in numbers, and the tension of the yarn as it comes over this lease rod pulls against a spring tension, and moves this hand to some special point on that dial. Of course the idea is to keep the hand of that dial pointing as near to the same place all the time as possible. That would indicate a uniform moisture content. If anybody has got that device in use, suppose you give us a description of it for the benefit of those, who have not. I have never seen it in use. I have heard about it, and understand it was very helpful in a great many cases. Has anybody here one of these in use? (No response). Can anybody tell us about it?

F. E. HEYMER (Columbus): I saw it down there in the lobby a little while ago. It might be a good idea to have the gentleman bring it up here and show it to these men.

ROBERT W. PHILIP: I will go and see if he is still down there with it.

MR. DENNIS: No one seems to have used this device, or to have seen it in operation. I think quite a few of them are in use in the Carolinas. I think it was first used in one of the mills in Spartanburg.

While we are waiting on that, do you care to bring up any other question before the meeting at this time?

J. W. HAMES (Atlanta): I think a question might be asked, or possibly a question was asked, as to using the creel behind the slasher the same as with the high speed warper.

MR. DENNIS: Has anybody seen an installation of that kind? I think one of the trade papers came out with an article, which described that installation in one of the Carolina mills. The impression I got from the article was that it was adaptable only for mills, that were using a very light sheet of yarn, and on other woven goods that you couldn't possibly get a creel behind the slasher, that would take care of a large number of ends such as some of us have to run. With 6,000 ends in the warp, you couldn't get a creel fast enough to run back the length. The system has its limitations and its advantages too, and we would like to hear from somebody, that knows something about it.

No one seems to know anything about it. Now, Mr. Widdup has this Sizeometer device here, and I am going to ask him to explain it to us.

MR. WIDDUP: We have here what we call the "Britton Sizeometer." Mr. Britton is superintendent of the Spartan Mills. This device sits on the frame of the slasher on the front. This other part is on the other side. This has a ball joint right here. Your split rod comes across from this one over to this side. As the yarn comes forward, the pressure against this rod causes the gauge to move forward. Say you are running eight pounds. If you are running at eight pounds, when the dry yarn comes over, it would

cause this to drop back a pound, it is equal to 10 per cent moisture. When your moist yarn comes over, it comes up to its running position. If the sizing man makes a mistake in his size, too much water, or not making the size right, it will show on the gauge. It will show that it does not come up to its running position. If your blanket on your slasher should happen to be worn, or become hard, the gauge won't come up. This machine is set so you can see it from the front of the slasher at all times, and you don't have to go behind and feel, and it tells the moisture you are putting in your yarn. There are more than fifty of these machines running in South Carolina, and every one of them is giving entire satisfaction. We have had no complaint from any one of them. If any of you people would like to see this machine, you can see it in the lobby down stairs, and I can give you a list of the mills, that have these machines, and you can write them and ask them what they have to say about it. I have a little literature, which I will give to any of the members, who may wish it.

FRANK S. DENNIS: Would anybody like to ask Mr. Widdup any questions about this sizeometer, about how it works, or anything at all about it?

MR. WIDDUP: The rod that goes with this machine is a nickel-plated rod and is furnished with the machine. This little bushing here is to keep the hand from jumping backwards and otherwise to hold the hand steady.

If the man making the size should make a mistake, this machine will tell on him at once because it will always show on the gauge, and it is always at your view whenever you pass the slasher.

I was demonstrating this machine some time back and a gentleman said to me, "I know how much moisture I get. I know I am leaving moisture in my yarn." "How do you know?" "I can tell by the feel. Even if I should dry my warp completely, I can put it back in the weave room." I don't believe anybody can dry a warp out and put it back in the weave room.

W. H. EPPS (Jefferson): What does that machine sell for?

MR. WIDDUP: \$125 complete.

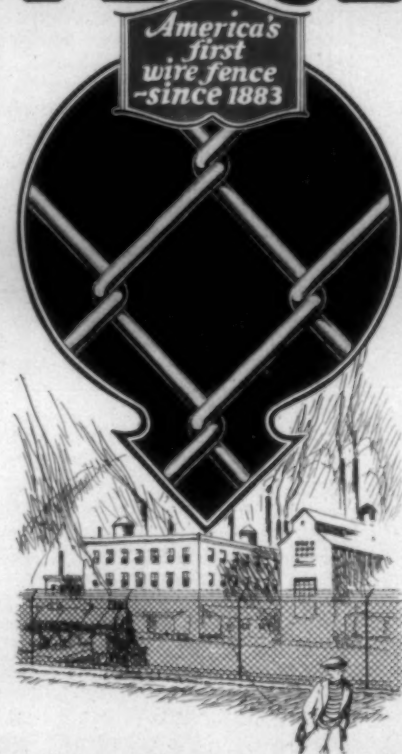
Question: Who makes them?

MR. WIDDUP: It is made in Boston and Mr. Britton is the man that has them made. It is a very accurate machine. Everybody that has got them says he would not be without it at any price. Over 50 of these machines are sold but none in Georgia. There are 50 machines out and I think we are behind on orders about 15 machines.

There was something that happened at the Clifton Manufacturing Company. They had one of these machines down there. The overseer of weaving came in and looked at the machine, and instead of running 8 or 7, it was running 12 to 14. They wanted to know what was the matter with the machine. The size man said he didn't know because certainly he had made the size right. About that time Mr. Brown said "There must be something wrong either with the machine or with

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the size. Let's cut off that kettle of size and make another one." They cut off that kettle of size and made another one, and when they did it, it came right back to 7. You cannot fool the instrument. I have no doubt that he put in starch twice. Somebody came around I guess and he had forgotten that he had put it in the kettle, and doubtless put it in twice. It is very often the case where a man making size might have 7 or 10 buckets of water to put in, and he might have put in 6, when somebody begins to talk to him, and he forgets how many he has put in. If he does anything like that, the instrument will show on him. Where you have your starch right, you are going to have your cloth more accurate in the cloth room. The machine ought to pay for itself in a short time.

Question: Does that register the percentage of moisture?

MR. WIDDUP: If you were running, where it was 8 or 10, or whatever it is, and you doff your beam. Your yarn comes over the cylinder perfectly dry. When it strikes that it will drop about one to one and a half pounds. If it drops one and a half, it is 15 per cent; if it drops one, it is probably 10.

You want to know, if your size is made right first, and, when you know you are right, and the gauge shows it, then you know just where you are. You can take this machine and it will register 7, and then you can take two dippers of water and put them in your size box, and the machine will show it is not right. That's how accurate the machine is.

This part here is made on a ball joint, so that whenever you doff the beam, turn the rod slightly and fasten it again, so the yarn won't catch the rod. The rod is nickel-plated.

FRANK S. DENNIS: We thank (Mr. Widdup then retired from the hall with the machine.)

FRANK S. DENNIS: Is there some other question on slashing or weaving?

FRANK K. PETREA (Columbus): I find that I have quite a bit of trouble with sweat spots on dark warp. I was just wondering what suggestion someone could make to eliminate sweat spots on dark colored patterns. I refer to sweat spots that drop from the hood or monitor over your cylinder.

FRANK S. DENNIS: You gentlemen heard the question. Mr. Petrea has trouble with sweat spots on colored goods. Do you use wood or metal boxing?

FRANK K. PETREA (Columbus): Wood.

FRANK S. DENNIS: Has anyone had any experience with sweat spots?

F. E. HEYMER (Columbus): Would not a good ventilating system overcome that?

FRANK K. PETREA (Columbus): I have the ventilating system going through the roof, but no fan.

J. W. HAMES (Atlanta): We had the same trouble at our plant with that system of ventilating going through the roof, and we changed, and it overcame it to a great extent. We know it couldn't be all overcome, but there was a very great improvement, and we did have con-

siderable trouble when the ventilating was through the roof.

FRANK S. DENNIS: Can anybody give an idea that will help Mr. Petrea? If not, let us have another question on slashing or weaving.

F. E. HEYMER (Columbus): What is the cause of slasher marks on warp? Either going across in a line or in spots. Some call them sweat marks.

A MEMBER: I have found in cases of that kind that this might be caused by having too much steam on. Cut that down a little, and I think you will find it will remedy the situation. I have had it where I had a line clear across, and we called those "roller marks."

FRANK S. DENNIS: Does anybody use a strainer on their size line to take up some of these lumps? Mr. Hames, will you describe that strainer that you have? I have got a little selfish interest in this.

J. W. HAMES (Atlanta): We use a strainer on the line just before the size empties into the circulating kettles. It will surprise a lot of you to find what we will accumulate there in a day's time. That gets the size that comes from the mixing kettle to the storage kettle, and also from the size box back to the storage kettle, and we get anywhere from a mote up to I would not say what.

MR. DILLARD (Columbus): We have the same.

FRANK S. DENNIS: We are getting ready to install a strainer.

J. W. HAMES (Atlanta): It is well worth while.

FRANK S. DENNIS: We are going to install it at the size box.

W. H. EPPS (Jefferson): Where have you got that installed, Mr. Hames?

J. W. HAMES (Atlanta): On the storage kettle.

FRANK S. DENNIS: My first effort at installation of this strainer is that I am going to have it at the size box, where it comes in.

Is there any other question in regard to that? If not, let's have another question on weaving or slashing. I wish you fellows had talked like this this morning.

A MEMBER: I am having a good deal of trouble with rainbow stripes. I take a cut of cloth and lay it down and it will come out four or five feet out of line at the other end, crawling around this way.

MR. BARNES: I had some trouble that on wide sheeting that worried me considerably. One night I told the second hand that "We will go down to the mill tonight and tear that thing down and find out what the trouble is." We took it down, lined it up, after finding that one arm was shorter than the other one and we fixed those and had no trouble after that.

MR. COTHRAN: We did the same thing and still have the same trouble.

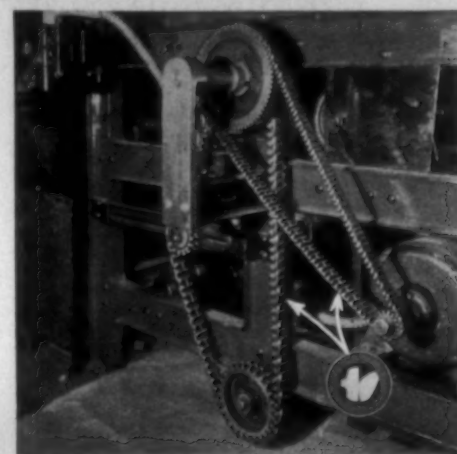
MR. BARNES: Is your loom level?

MR. COTHRAN: Yes, sir.

MR. STEELE: We had a little trouble and we found that one end of the crank shaft went in ahead of the other. We put that shaft in line and got rid of the trouble. We didn't have rainbow cloth, but it was about the same thing.

MR. BARNES: If your cloth rol-

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ler does not go up and down easily, and it is not level, when you wind it up, that might cause it. One cloth block being worn more than the other would cause it.

MR. DILLARD: Does anybody use for slasher roll covering yarn that is wrapped around the squeeze roller in preference to flannel? That is a yarn, that is wrapped around the squeeze roller instead of using the flannel. We tried that on one slasher, and the saving was about \$80.00 a year in cost. I was wondering if anybody else had that same experience.

Question: Did you get a more uniform warp or about the same?

MR. DILLARD: I would not say. I don't think it is quite as good.

F. E. HEYMER (Columbus): I would like to relate a little experience we had. Recently a man came down there and took about ten days to equip that roll so that it would work right. We had to stop our slashers that long to put on that one roll and I don't think it was such a success.

MR. DILLARD (Columbus): It takes us about 30 minutes, not longer than that.

F. E. HEYMER (Columbus): This man stayed about a week or ten days to put it on. Now, if an expert took that long, how long would it take a regular slasher man? So far he does not find so much difference in the class of work.

FRANK S. DENNIS: Have you one of those attachments, Mr. Hames?

J. W. HAMES (Atlanta): No, I have not. I have always been a little skeptical.

FRANK S. DENNIS: Is there another question?

MR. STEELE: If a man decided to change the number of the yarn from 22s yarn to 24½s yarn, would you have any trouble in getting the right width for that cloth? All you do is to change the number of your yarn. Would you have any trouble?

FRANK S. DENNIS: The filling should be made heavier in proportion to the weight you are taking out of the warp.

MR. BARNES: You would have a slight variation in contraction. If you change to a heavier filling, you would have a slight variation in contraction.

MR. STEELE: We had that trouble. We couldn't run it slack enough to make it wide enough, and we couldn't see why it should be. To get our cloth right, we had to change our reeds. We didn't have to change our filling but very little to get our cloth where it ought to be—we had to change our filling possibly a number—but we had to change our reeds. We changed our filling possibly a number or a number and a half. I just didn't understand why running the same cloth, same width and everything, I could not get my cloth wide enough without changing the reeds, but we had to do it. We changed all of our reeds to thirty and a quarter instead of thirty and a half. It works all right, and we got the width, and we didn't do it before.

FRANK S. DENNIS: Is there any other question you would like to ask about that, Mr. Steele?

MR. STEELE: No, I think not.

W. H. EPPS (Jefferson): I don't see why you all can't get together in the same town and adjust your troubles without bringing them down here to us. (Laughter.)

FRANK S. DENNIS: The next time we get in a tight like that, we are going to send to Jefferson. (Applause.)

Is there any other question on weaving and slashing anyone would like to ask? If not, I think we can bring our meeting to a close.

(At this point a short discussion took place growing out of suggestions made by various members as to future policies, which might be of benefit in the conduct of this organization. This was declared to be in executive session and is not embraced in this record.)

FRANK S. DENNIS: Is there anything to be brought up now before we adjourn? If not, we will stand adjourned. Thank you, gentlemen.

Among Those Present.

Among those who attended the meeting were:

C. Barnes, Weaver, Exposition Cotton Mills, Atlanta, Ga.

R. D. Harvey, Pepperell Mfg. Co., Lindale, Ga.

R. A. Field, Gen. Supt., Newnan Cotton Mills, Newnan, Ga.

John Trigg, Pepperell Mfg. Co., Lindale, Ga.

C. A. Land, Pepperell Mfg. Co., Lindale, Ga.

D. R. Senn, Supt., Enterprise Mfg. Co., Augusta, Ga.

J. B. Williams, Supt., The Augusta Factory, Augusta, Ga.

J. A. Sorrels, Supt., Gainesville Cotton Mills, Gainesville, Ga.

Walter Dillard, Jr., Asst. Supt., Columbus Mfg. Co., Columbus, Ga.

Kenneth McKenzie, Sr., Whittier Mills Co., Chattahoochee, Ga.

L. M. Pugh, O-Weaving, Columbus Mfg. Co., Columbus, Ga.

J. L. Riddle, O-Weaving, Columbus Mfg. Co., Columbus, Ga.

J. W. Hames, Supt., Exposition Cotton Mills, Atlanta, Ga.

W. T. Strozier, Cloth Room, Exposition Cotton Mills, Atlanta, Ga.

Geo. S. Elliott, Asst. Supt., Pacolet Mfg. Co., New Holland, Ga.

W. H. Epps, Supt., Jefferson Mills, Jefferson, Ga.

Frank E. Heymer, Eagle & Phenix Mills, Columbus, Ga.

Frank L. Asbury, Jr., Hillside Cotton Mills, LaGrange, Ga.

Frank K. Petrea, Supt., Swift Mfg. Co., Columbus, Ga.

Frank S. Dennis, Mgr. and Supt., Union Div., Con. Textile Corp., LaFayette, Ga.

M. Parrott, Supt. Cloth Room, Manchester, Ga.

John Klinck, Sibley Mfg. Co., Augusta, Ga.

L. B. Foster, U. S. Cotton Mills, Atlanta, Ga.

V. J. Thompson, Manchester Cotton Mills, Manchester, Ga.

W. L. Whisenant, O-Weaving, Manchester Cotton Mills, Manchester, Ga.

F. B. Williams, Supt., West Point Mfg. Co., Fairfax Mill, West Point, Ga.

C. C. Greer, Pepperell Mfg. Co., Lindale, Ga.

W. A. Mungal, Pepperell Mfg. Co., Lindale, Ga.

A. E. Massey, Supt., Thomaston Cotton Mills, Thomaston, Ga.

J. L. Beard, O-Weaving, Aragon Mills, Aragon, Ga.
 J. C. Platt, Supt., Aragon Mills, Aragon, Ga.
 J. H. Hyde, O-Weaving, LaFayette Cotton Mills, LaFayette, Ga.
 R. S. Steele, Supt., LaFayette Cotton Mills, LaFayette, Ga.
 C. V. Ahlis, Southern Belting Co., Atlanta, Ga.
 C. R. Merritt, Southern Belting Co., Atlanta, Ga.
 Emile LeClair, Atlanta Harness & Reed Mfg. Co., Atlanta, Ga.
 Stanley C. Bouchard, U. S. Bobbin & Shuttle Co.
 R. E. Buck, Jr., Arnold, Hoffman & Co., Inc., Charlotte, N. C.
 I. D. Wingo, Whittin Machine Works, Atlanta, Ga.
 W. J. Rooke, Business Mgr., Cotton, Atlanta, Ga.
 Jno. H. Spencer, Barber-Colman Co., Greenville, S. C.
 S. P. Rakestraw, Sou. Agt., National Gum & Mica Co., LaGrange, Ga.
 Frank G. North, Rep., Arnold, Hoffman & Co., Inc., Atlanta, Ga.
 C. M. Young, Georgia Webbing & Tape Co., Columbus, Ga.
 Alex R. Davis, Saco-Lowell Shops, Charlotte, N. C.
 Fred P. Brooks, Saco-Lowell Shops, Atlanta, Ga.
 Chas. L. Ashley, Dary Ring Traveler Co., Atlanta, Ga.
 C. L. Williams, Draper Corp., Atlanta, Ga.
 David Clark, Editor, Southern Textile Bulletin, Charlotte, N. C.
 W. B. Widdup, Andrews Loom Reed & Harness Works, Spartanburg, S. C.
 Howard M. Barker, Taylor Instrument Co., Atlanta, Ga.
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 L. Lanier, Rep., National Ring Traveler Co., Shawmut, Ala.
 I. E. Addick, The Walraven Co., Atlanta, Ga.
 Howard L. Smith, Draper Corp., Atlanta, Ga.
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 W. C. Gibson, The Arabol Mfg. Co., New York City.
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 Ed. S. Kempton, Mill Devices Co., Inc., Gastonia, N. C.
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 D. S. Cook, Agent, Pepperell Mfg. Co., Opelika, Ala.
 C. C. Cobb, Supt. and Mgr., Geneva Cotton Mills, Geneva, Ala.
 A. D. Oliphant, Sou. Mgr., Textile World, Greenville, S. C.
 J. J. Crowder, Spinner, Stark Mills, Hogansville, Ga.
 J. M. Gregg, Sec. and Treas., Southern Textile Association, Charlotte, N. C.
 Thos. E. Walsh, Cotton, Atlanta, Ga.
 S. C. Davis, Weaver, Stark Mills, Hogansville, Ga.
 Edward Crusselle, Reporter, Atlanta, Ga.

Visiting Europe

(Continued from Page 16)

And it's sweet to dream in Venice
 and it's great to study Rome.
 But when it comes to living, there
 is no place like home.

I know that Europe's wonderful, yet
 something seems to lack
 The past is too much with her, and
 the people looking back.
 But the glory of the present is to
 make the future free—
 We love our land for what she is
 and what she is to be.

Oh, it's home again, and home again,
 America for me!
 I want a ship that's westward bound
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 Where the air is full of sunlight,
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(The End)

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Soap and Its Relation to Hard Water in Dyeing

(Continued from Page 35)

fore it comes in contact with the goods containing soap. With the piece-goods this is simple, for the rinsing is usually given in a separate box and the rinse water can be treated in the box before immersing the pieces. Hosiery remains in the drum into which is introduced the water for the successive baths.

In order to correct the water before it strikes the goods, the soap solution is added to the washer at the point of entry of the rinse water, either before or at the same time as the rinse water is added. This, of course, is simple enough. After dropping the liquor add the soap solution directly below the water inlet pipe and proceed. In this way the water comes in contact with the soap solution before it strikes the goods and the lime salts are killed so that they have no action on the soap in the goods.

Summary.

In the resume of the foregoing points it can be said that whenever goods containing soap are placed in hard water lime soap will be precipitated intimately within the twist of the fibre. This may cause trouble from odor, soap spots, yellowing of whites, and uneven dyeing.

The practical method for overcoming hard water troubles consists of treating the water before the goods are entered, so that the lime soap cannot be precipitated within the fibre. The treatment is simply the addition to the hard water of enough ten per cent olive soap solution to react with the hardness, thus forming a stable suspension of the lime soap in such a finely divided state that it cannot adhere to the fibre.

Measuring Colors

The production of synthetic dye-stuffs in ever increasing variety and quantity has not been attend by a corresponding reduction of their use to the scientific methods of control and standardization which characterize the manufacturing technique of the present day. The production of synthetic dyes is the result of persistent and continuing chemical research, and the fact that the use of these products remains a craft rather than an accurate science is a tribute to the skill of the dyer and colorist in meeting the demands of industry by "cut and try" methods.

Craftsmanship has surrounded this art with mysterious and meaningless names, which fact brings to the fore the demand for a universal color language. As long as the color of an object cannot be made definitely described than as a pinkish-orange, Alice blue, or invisible green, those industries which are concerned with maintenance of color standards and the purchase of goods on a color specification are laboring under a real handicap.

The maintenance of color standards is another phase of the color problem. With recent advances in the science of color measurements,

and the increasing precision and usefulness of instruments designed for this purpose, it is now possible to chart any given color, and thereby create as permanent any given color, and thereby create a permanent record that can be referred to as a standard from day to day and year to year. In those industries where color values are of the greatest importance, growing recognition of the utility of such records is anticipated.

The dye industry already recognizes the importance of color graphs and is supplying this useful data to its customers, who, however, with few exceptions, are unable to make practical use of the information. This situation might be likened to furnishing specifications in metric units to a man who understands only British units and is without a conversion table.

Color measurements are also being practically applied to secure the proper balancing of colors for harmonious effects. Within the past few years certain leading manufacturers have successfully applied this comparatively new science to the printing of cartons, posters, and other forms of advertising matter. These practical applications point the way to new developments.

Standardization, control, and harmonious use of colors, which are the practical objectives of color measurements, are of outstanding importance in the dyeing and printing of textiles. It would appear as only a matter of time before the textile industry will recognize the possibilities which the science of color measurements now extends, and the habit of think of colors in terms of wave lengths will be as commonplace as the present classification of radio broadcasting stations on a similar scale. An automatic color recording instrument will mark the next substantial step toward the general use of color measurements, and very significantly such a development is now promised from a new application of the now familiar photo-electric cell and radio tube.—Industrial Bulletin from Arthur D. Little, Inc.

Viscose to Build New Unit.

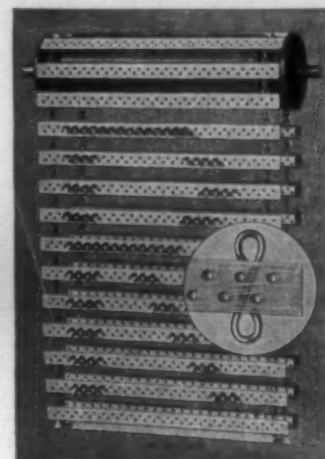
Roanoke, Va.—Between \$2,000,000 and \$3,000,000 will be expended by the Viscose Corp., at once in the erection of a new unit, the sixth in its huge manufacturing plant here. Excavations for the addition were begun early this week.

Rumors had been current in Roanoke for some time that the company planned to add another unit. These rumors were confirmed at the company's offices Monday.

The Viscose Corp. already has the largest artificial silk manufacturing plant in the world. Work on the additions, which is a duplicate of unit No. 5, will be rushed to completion. It is understood that about 10 months will be required to finish it.

When unit No. 5 was built, in 1925, a sorting house and a power house also were erected. These two buildings also will serve additions of two more units should the company choose to build in the future.

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Influence of Artificial Silk on Finishing

GOODS containing cotton, wool, natural silk, etc., by reason of their long usage, were finished by processes which have gradually developed, which have had many years in which to test their efficiency. The introduction of the artificial silks gave rise to a variety of problems in the solving of which a gradual change of procedure has occurred in the finishing trade, a change which is having a marked effect both on the works and its machinery, and on the work-people themselves.

The finishing of cotton fabrics, apart from dyeing and printing and before the advent of the artificial silks, consisted largely of finishes brought about by mechanical means. The chemical finishes were very few and included mercerizing, fire-proofing, and waterproofing as their main items. Other chemical finishes on cotton were in existence. The treatment of cotton goods with concentrated sulphuric acid to produce the organdie effect has grown commercially side by side with the development of the artificial silks. The use of nitric acid to produce novel effects is also growing. These developments of chemical finishes on cotton goods necessitated the use of drastic reagents, and hence the processes used were regarded as dangerous and liable to give a great deal of trouble in their successful application to cotton fabrics.

In the case of the artificial silks, particularly the cellulose acetate variety, the reactivity of the new fibres rendered the possibility of new chemical finishes an attractive proposition and one which could be commercially exploited without the use of very drastic reagents. Such has been the case, and the rapidly growing number of processes for the employment of chemical reagents which are sufficiently mild in their action for use in this connection. Such processes are based on the chemical and physical changes brought about by the use of milder reagents than those available for treating cotton.

On the mechanical side of finishing, cotton fabrics are too drastic in their action for the silks. While most cotton goods are capable of being pulled somewhat roughly from one process to another, such treatment affects the silks adversely, particularly when these fibres are more delicate in the wet state. Heavy pressure work coupled with heat treatment is unsuitable for the silks without giving any of the advantages obtained with cotton goods.

The machines used for stretching and drying, for examples, stenters and the like, have undergone modification, eliminating the pulling of the fabrics and treating the selvages with greater respect. The general trend of these improvements has been in the direction of dealing with the fabrics more gently, according to the physical characteristics of the fibres.

In the standard divisions of the processes involved in bleaching, dyeing, printing, and finishing the same careful treatment has been

necessary. The bleaching operations, where bleaching is necessary, have been modified. Pressure boiling, the use of caustic, and prolonged treatments have been cut out and replaced by gentler treatments. While these modifications had been coming into general use with the introduction of the vat colors into cotton fabrics, their use was greatly extended when dealing with fabrics containing artificial silks. Dyeing operations on the silk yarns in the form of hanks is a different proposition from that of dyeing cotton in this form. Apart from the dye used, and the difficulties of dyeing which were encountered, the treatment of the artificial silk yarn demanded less handling and this of the gentlest kind.

In general, the finishing of cotton fabrics proceeds at a very high speed, with little harmful effects, but this speed of production is not possible with the silks, which demand more attention to detail.

It is an interesting speculation whether the trend of finishing is in the same direction as that of the manufacturing section of the industry. It may be true that the industry is tending to specialize on the production of the higher class goods, calling up the skill and experience of the Lancashire operative. It is certainly true that the finishing of the artificial silks has called for more careful work on the part of the operative in the finishing industry. This careful working must be backed up by detailed instructions and guidance from the foremen, who in turn are relying more and more on the skilled knowledge of the works chemist. The latter has the double responsibility of showing how the new goods can be treated successfully and being able to carry out these processes and train the operatives in their particular task.

The artificial silks have made it necessary for finishers to overhaul their processes and machinery, but the most important influence of the artificial silks has been to bring this section into closer touch with scientific knowledge. The study of their chemical and physical properties is essential of for correct treatment, and this knowledge is slowly making its way throughout the finishing works.—Manchester Guardian.

Silk Prospects Good

Prospects for a good silk business during the forthcoming fall and winter are excellent, according to Paul H. Bonner, vice-president and general manager of the Stehli Silks Corporation. The very conditions which have made business difficult for the past nine months will operate to improve it measurably. This is because the hand-to-mouth buying policy has forced dress silk manufacturers to reduce production and to study style and color more acutely than ever before.

The result of this policy will be to have the proper style and color available for the consumer when needed. There will not be any great quantity of marked-down merchandise as in the past.

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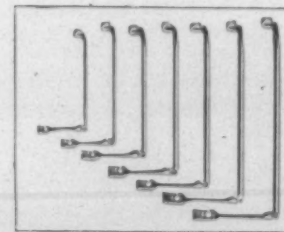
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Spartanburg, S. C., Clinton Cotton Mills, Clinton, S. C., Hermitage Cotton Mills,
Camden, S. C., Mills Mill, Greenville, S. C., Osage Mfg. Co., Bessemer City, N. C.

Cotton Goods

New York.—The cotton goods markets were badly upset by the erratic trend of cotton during the week, due mainly to the government discussion of the probable price trend. The steady rise in the price of gray goods was checked and sales were smaller. Conditions were somewhat better toward the end of the week.

A feature of the week's business was the development of a remarkably strong demand for gingham. The leading gingham producer, in 48 hours time, sold its production up from October 15 delivery to the end of the year. Other denim mills reported an unusually large business and are expected to withdraw from the market. Other colored goods were fairly active, business covering chambrays and flannels. Sales of printed goods were good until the cotton market began to go lower. The price advance on ginghams was about 1½ cents a yard, on bleached cottons another half cent a yard, on denims and tickings, half a cent a yard. Cotton blankets were 5 per cent higher. Print cloths and sheetings were a quarter lower than the recent high levels.

The situation with most mills is regarded as satisfactory in view of the fact that most of them have a good volume of unfilled orders on hand although conditions during the last ten days have made operations very difficult, as far as new business is concerned.

While trading in print cloths was scattered there was no volume to it, though one or two mills were in receipt of a few larger commitments. Mills held their prices firm as a rule. On inquiry where bids were to be submitted answers occasionally came back that nothing under established levels would apply. There were exceptions where first hand sales were made at under the regular prices, but these examples were the exceptions. A number of second hand sales were made, some of them under the regular levels and others at full prices.

Mills sold 64x60s print cloths at 9c; 60x48s, 7½c; 68x72s, 10½c; 80 squares, 12½c; 820-yard, 6c. Through second hand sales were made of 80 squares at 12c, with more available at the close; 64x60s, 8½c; 68x72s, 10c; 72x76s, 11½c. First hand trading on 820-yard was 6c and re-sales at 5½c. 36-inch 5.75-yard, 8½c; 7.15-yard, 6½c and 7c. The 32-inch 6.50-yard were held for 8c; 27-inch 64x60s, 6½c to 6¾c; 6.60-yard, 7½c; 6.40-yard, 7½c and sold at 7½c. Second hand trading on 64x56 5.50-yard was at 8½c, mills holding for 8½c to 9c.

In the sheeting division sales of 40-inch 5-yard and 5.50-yard were made first hand at 8c, and the 5-yard held for up to 8½c. Buyers paid 12½c for 36-inch 3.25-yard; 11c for both 37-inch 3.50-yard and 56x60s 4-yard; 10c for 37-inch 4-yard. A little was done on 40 square 6.15-yard at 6¾c; 40-inch 2.85-yard, 13½c; 36-inch 5.50-yard, 7½c and 8c; 36-inch 4.70-yard, 9½c and later held for 9c.

The 40-inch 3.60-yard were held for 12½c; 32-inch 6.25-yard, 6¾c; 40-inch 4.25-yard, 9½c; 36-inch 4.25-yard, 10½c.

Combed broadcloths generally continued firm. There were some mills endeavoring to peg prices on the 128x68 at around 18½ and 19 cents. Quotations heard averaged some goods at under these prices re-betweeen 18 and 18½ cents, with ported in second hands.

It was generally reported that cotton duck demand was limited, though a few first and second hand sales were made. There was interest in army duck, the better grades held for 46c to 48c and the list held at 5 to 5 and 5 off in several quarters.

The demand for fair quantities of tire fabric continued and additional small sales were made. A few mills name quotations which they had some time ago, since which time they have felt entitled to advances.

The business of the week in the Fall River print cloth market was conducted largely during the first two days. The fluctuations of cotton which developed later put a quietus on what might have been an exceptional period of trading. The result of the action of the cotton market was to restrict trading, nevertheless, total sales are estimated at close to 100,000 pieces. Business of the early part of the week covered rather a wide range of constructions, but slackened into a 36-inch low count market. These latter constructions constitute the bulk of the sales put through.

Cotton goods prices were quoted as follows:

Print cloths, 28-in., 64x60s	7½
Print cloths, 28-in., 64x60s	7
Print cloths, 27-in., 64x60s	6½
Gray goods, 38½-in., 64x64s	9½
Gray goods, 39-in., 68x72s	10½
Gray goods, 39-in., 80x80s	12½
Brown sheetings, 3-yard	13½
Brown sheetings, 4-yd., 56x 60s	11½
Brown sheetings, stand.	14½
Tickings, 8-oz.	22½a24
Denims	18½
Staple ginghams, 27-in.	10
Kid finished cambrics	8½a 9½
Dress ginghams	15½a16½
Standard prints	8½

Exports of Cotton Yarn Show Gain

Washington, D. C. — Cotton yarn exports to all important markets have been higher so far in 1927 than in the two preceding years, according to an announcement by the Department of Agriculture.

Recovery of the German spinning industry was indicated by a large increase in yarn shipments to that country and a similar increase in exports to British India was also considered important.

China, however, has taken only a little more than half as much piece goods from the United Kingdom in the same period as in the preceding two years.